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THE DIAGNOSIS AND TREATMENT OF STONE IN THE URETER*

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CHICAGO

The high plane of efficiency that has been achieved in the treatment of stone in the ureter is directly due to the splendid developments in the field of roentgenology, the perfection of urologic diagnostic instruments and the results derived from the combination of these two factors. With the improved technic in roentgen-ray examinations, recently fortified by the new Potter diaphragm, stones in the ureter are being more and more frequently demonstrated. As for the perfection of the various types of urologic instruments, this scarcely needs comment at this time.

The treatment of stone in the ureter has passed through three more or less arbitrary periods. The first period began about the time the use of the roentgen rays was introduced as a diagnostic measure. Many shadows were found that were wrongly interpreted, and it is unpleasant to record that as a result patients were subjected to a needless open operation which failed to show the presence of a stone.

The second period dates from the introduction of the shadowgraph catheter, by means of which many of the shadows hitherto misinterpreted were proved to be of extra-urinary origin; that is, a free interval was demonstrated between the shadowgraph catheter and the shadow under suspicion (Fig. 1). It goes without saying that, following the introduction of this diagnostic aid, many unnecessary operations were avoided, though mention should be made here that at this time a diagnosis of stone in the ureter was synonymous with an open operation. Despite the fact that the shadowgraph catheter was a definite advance in excluding the various extra-ureteral shadow-producing bodies, there still remained a small number of cases which involved a doubt as to the exact location of the shadow-producing body. The possibility of error in this matter was the incentive to the introduction of stereoscopic roentgenograms. Braasch was one of the early advocates of the employment of ureterograms to overcome this difficulty.

In order to reduce the possibility of error still further, I described a new method for the localization of stone in the ureter, in which a double exposure is made on a single plate with a shift in the tube, a procedure that is of much aid in the technic of determining the origin of the suspicious shadow, and can be applied in the routine study of cases. I have found this process extremely valuable in certain doubtful cases. In a case in which a diagnosis of possible ureteral stone has been made, the shadowgraph catheter is passed in the usual way, and an exposure is taken with the catheter in place. A second exposure is made on the same plate without changing the position of the patient and without changing the position of the plate; but the position of the tube is changed, so that one obtains a double exposure on one plate. If the shadow under discussion and the shadowgraph catheter lie within the ureter, that is, in the same body plane, they will both move in the same direction and remain in contact with each other and will be seen in contact on the plate (Figs. 2 and 3). If the shadow and shadowgraph catheter do not lie in the same body plane, there results a definite interval between the shadowgraph catheter and the shadow.

Recently, Bransford Lewis suggested a new procedure in the diagnosis of ureteral stone. In cases in which he finds a questionable shadow apparently in contact with the shadowgraph catheter contained in the ureter, he withdraws the catheter and replaces it with a metal ureteral dilator, and makes another exposure of the same field. If the shadow is that of stone, it still shows in contact with the instrument within the ureter; but if it is a phlebolith, it is now seen to be distinctly separated from the ureter.

Although during the second period more accurate diagnoses were made, and the number of surgical errors were greatly reduced, the consensus of opinion was that the treatment of ureteral calculus was surgical.

Braasch, in a recent article, likewise emphasizes the necessity of conservatism in handling these cases. He says:

> The majority of stones will probably pass within three or four months following the first symptom. It may be stated, therefore, that it is usually inadvisable to operate for a stone either in the kidney or ureter until at least three months, and possibly six months, have elapsed since the onset of the symptoms. Immediate operation for stone following the first or second attack of pain without evidence of other complications is strongly to be condemned.

DIAGNOSIS

The various abdominal lesions producing pain of a colicky nature must be considered in a differential diagnosis. Perhaps the greatest source of error arises in cases in which the stones occur on the right side, since right-sided abdominal pain associated with nausea and vomiting is most frequently mistaken for an attack of appendicitis, many patients having had their appendixes removed without obtaining the desired relief. In this series, fifteen patients underwent appendectomy. Next in point of frequency is error in confusing stone in the ureter with lesions of the female pelvic organs. Because of abdominal pain, with or without bladder

* This article has been abbreviated in THE JOURNAL by the omission of four illustrations. These appear in the author's reprints.

distress, a hurried and incomplete pelvic examination is made, and tubes and ovaries are needlessly removed. Next in frequency, lesions of the gallbladder give rise to diagnostic errors, but this occurs only at long intervals. In four cases, the symptoms were attributed to various rectal conditions, but no relief resulted from:

Fig. 1.—Free interval between shadow and catheter.

dilatation of rectum (one case); fistula in ano (one case); hemorrhoidectomy (two cases).

While not attempting to discuss all of the various abdominal lesions for which stone in the ureter has been mistaken, the foregoing citations will suffice to emphasize the fact that no patient suffering from indefinite abdominal colic should be operated on until a careful urologic study has been made.

TABLE 1.—*Points of Radiation*

	Number of Cases		Number of Cases
Groin	10	Hip and penis	1
Penis	10	Hip and bladder	1
Penis and testes	3	Above pubes	2
Penis and bladder	2	Leg	2
Glans penis	1	Along sciatic nerve	1
Root of penis	1	Appendix	1
Penis and groin	1	Stomach	1
Bladder	9	Across transverse colon	1
Bladder and penis	2	Thigh	1
Bladder and perineum	1	Pelvis	1
Hip	4		

SYMPTOMS

In this series of 140 cases, pain was the most constant symptom, and in the largest number it was described as being of a colicky nature. In eighty-nine cases, the patients gave a history of typical renal colic; hence, it was evident that there was a lesion of the urinary tract. In these cases, the pain began in the back along the course of the ureter, passed downward and forward along the ureter and often radiated into the groin. In some instances, the pain did not radiate into the groin, and some rather unusual points as regards radiation were noted.

Table 1 presents the points of radiation in those cases with a typical history of renal colic, as well as in those lacking in this history.

Of the urinary symptoms, frequency headed the list, being present in seventy-two cases. Next in point of frequency was hematuria, noted in forty-five cases. Other urinary symptoms are presented in Table 2.

URINALYSIS

The value of urinalysis in cases of ureteral stone cannot be overemphasized. An ordinary specimen taken at random and examined but once may not yield much information, but in a large majority of suspected cases of stone in the ureter, if repeated careful examinations are made, one will be rewarded by finding an occasional red blood cell, some pus or perhaps both blood and pus in the urine. The presence of a few blood and

TABLE 2.—*Urinary Symptoms*

	Number of Cases		Number of Cases
Frequency	72	Tenesmus	12
Hematuria	45	Difficulty	11
Nocturia	38	Retention	11
Burning	32	Dribbling	4
Dysuria	22	Incontinence	3
Urgency	17		

pus cells is not always pathognomonic of stone in the ureter. Nevertheless, in a given case of indefinite pain in which a careful urinary examination shows the presence of some of these elements, this should be of sufficient moment to direct attention to the possibility of a lesion in the urinary tract; and, furthermore, these patients should be given the benefit of a careful roentgenographic examination before operation. One cannot but feel that if careful examinations are made of all specimens passed by patients during an attack of severe abdominal colic, the amount of evidence obtained will call attention to the urinary tract, and hence the patient

Fig. 2.—Stone shadow in same relation to catheter before and after shifting of roentgen-ray tube.

will be given a careful urologic examination. Records are available in 110 cases as shown in Table 3.

Bacteriologic studies, for various reasons, could not be carried out in all cases, since some of the patients were seen but once, either in their homes, in other hospitals or in the country. The data are summarized in Table 4.

The point which should be emphasized here is that careful repeated urinary examinations yield information of great help in localizing the origin of the patient's symptoms, and, as previously stated, may be the means of preventing an unnecessary operation.

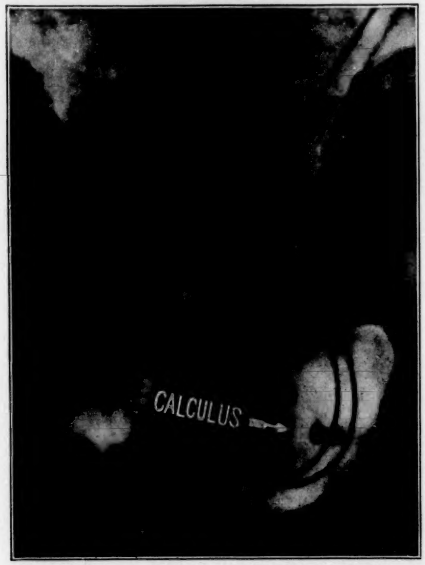

Fig. 3.—Calculus in right ureter: a double exposure on a single plate with shift in tube; stone shadow in contact with catheter in both exposures.

GASTRO-INTESTINAL SYMPTOMS

Reflex nausea and vomiting are the accompanying symptoms of calculus disease of the kidney and ureter, and also of the gallbladder, and it is rare not to find one

TABLE 3.—*Findings in Urinalysis*

	Number of Cases		Number of Cases
Pus cells only	48	Negative urines	7
Red blood cells only	9	Casts only	1
Pus and red blood cells	45		

TABLE 4.—*Results of Bacteriologic Studies*

Organisms Found	Number of Cases	Organisms Found	Number of Cases
Sterile	45	Staphylococci and diphtheroids	1
Staphylococci	15	Streptococci	1
Bacteria (in smears)	20	Streptococci and staphylococci	1
Colon bacilli	11	Staphylococci and Bacillus pyocyaneus	1
Colon bacilli and staphylococci	3		

of these symptoms or both present during a severe attack. This statement is borne out by the experience in this series. Table 5 shows the number of cases presenting gastro-intestinal symptoms.

ROENTGEN-RAY DATA

At times, the question asked by the patient concerns the possible source of error to which the roentgen ray may be subject in the diagnosis of stone in the ureter. The percentage of error, as given by various authors, is variable. Geraghty and Hinman state that the roentgen rays failed to show the presence of stone in 15 per cent. of their cases.

In this series, positive evidence of stone was obtained in 89.28 per cent. of the cases. In several instances, the plates were reported negative at first, and subsequently small stones were passed. This led to a careful rereading of the plates, and we were then rewarded by being able to see shadows that corresponded in size and shape with the stones passed by the patients. This happened in cases in which a plain plate was made, and also in plates from cases in which a shadowgraph catheter had previously been passed. The most frequent source of error was our failure to recognize small shadows lying over bony structures.

TABLE 5.—*Gastro-Intestinal Symptoms*

	Number of Cases		Number of Cases
Nausea and vomiting	51	Constipation	18
Nausea	5	Diarrhea	2
Vomiting	9		

The roentgen-ray exposure should include both kidneys and both ureters, in order that stones in the kidneys be not overlooked (Figs. 4 and 5).

The presence of calculi in other organs of the genito-urinary tract were noted in fifteen cases. The calculi were distributed thus: the kidney in nine cases; the prostate in four, and the bladder in two.

TREATMENT

Once the diagnosis has been made, and the question of treatment is under consideration, it is well to bear

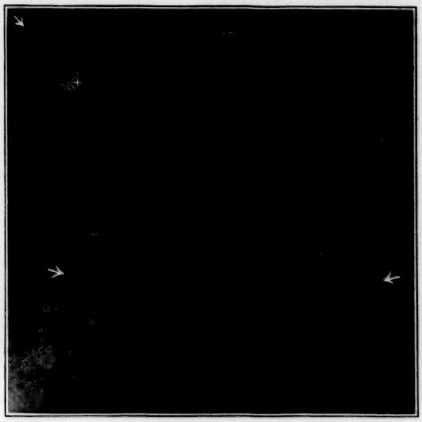

Fig. 4.—Stone in right kidney with impaction of sand in right ureter; small calculus in left ureter.

in mind the fact that a large number of these calculi will pass unaided. This is a very important fact to remember, since the patient should be given the benefit of this knowledge.

The number of cases in which stones pass unaided is variable. In my own series, 26.428 per cent. of the patients passed the calculus unaided. Judd states that

12 per cent. of a group of about 400 persons responded in the affirmative when questioned with regard to passing of stones.

NONOPERATIVE TREATMENT

The removal of calculi from the ureter by means other than an open operation has been advocated for many years both in this country and abroad.

1. *Simple Ureteral Catheterization.*—Of the various methods at our disposal, ureteral catheterization is the simplest. The mere passage of an ureteral catheter has been followed at times by the passage of calculi whose presence had not been suspected or demonstrated before ureteral catheterization was carried out for diagnostic purposes.

2. *Ureteral Catheterization and Injections of Various Drugs.*—The use of local anesthesia in the ureter to relieve pain, to overcome spasm and to aid in passing the catheter above the stone has been in vogue for a great many years. Bugbee, Nitze, Casper, Bevan and Kretschmer, Crowell, Bransford Lewis, Geraghty, Young and many others have advocated it in published

Fig. 5.—Large collection of stones left in ureter after nephrectomy for renal calculus.

articles. Nevertheless, as far as I know, it has not been practiced as a routine procedure except by Crowell, who has recently reported that he was able to remove the stone in seventy-six of seventy-eight consecutive cases of ureteral calculi, without a fatality.

Injections of various oily solutions, such as olive oil, sweet almond oil and liquid petrolatum, have been advocated, to aid in the passage of the stone. These may be injected either with or without local anesthesia. In order to obtain relaxation of the ureter and thereby facilitate the passage of the stone, intraureteral injections of papaverin have been advised, but our experience shows that this preparation has not yielded the results claimed for it. There has always been a question in my mind as to how much benefit should be attributed to the various drugs employed, and how much credit should be given to the passage of the catheter, as a result of which the stone no doubt is quite frequently dislodged. Passage of the catheter may also produce a certain amount of dilatation of the ureter, thus facilitating the passage of the stone.

3. *Fulguration.*—The use of the frequency spark to aid in removing stones from the ureter has been advocated by Buerger, Furniss and Young.

4. *Operative Procedures Through the Cystoscope.*—Various operative procedures have been advised. In instances in which the ureteral orifice is small, so that the stone cannot enter the bladder, it may be cut with either the knife or scissors through the operating cystoscope. Dilatation may be carried out with a Garceau catheter or with a Bransford Lewis ureteral dilator. By these procedures, the lower ureter is enlarged to allow free passage of the stone into the bladder. On a number of occasions, I have succeeded in grasping the stone with the Buerger forceps when it seemed to be caught within the ureteral orifice itself.

ECONOMIC ADVANTAGES

In cases that can be managed in the manner outlined above, there are these definite advantages:

1. The patient avoids a major operation and the incident anesthesia.

2. Even though stricture of the ureter following ureterotomy is rare, it should be reckoned with, and this applies equally well to stricture with destruction of the kidney, which, though rare, can and does occur.

3. The procedure does not necessitate a stay in the hospital, or if the patient does remain in the hospital, his stay is generally not longer than twelve hours. Furthermore, if this procedure is carried out, a larger number of hospital beds are available for other cases, and last, but not least, the patient loses but little time from his work.

INDICATIONS FOR SURGICAL INTERVENTION

The indications for an open operation are variable, but in general can be clearly outlined in practically every case.

Size of the Stone.—It is obvious that, in cases in which there are large stones, which cannot pass through the ureter, the patient should be operated on (Fig. 6). This statement should not stand unqualified, since patients often bring in large stones which, from their size as shown by the roentgen ray, had appeared impossible of passage through the intramural part of the ureter.

Number of Stones.—When stones in the ureter are multiple, it is generally considered better judgment to perform an open operation, although I have seen one instance in which a patient had three large stones on one side and two large ones on the other, and passed them unaided.

Location of Stone.—In stones of the lower ureter, nonoperative measures should be tried repeatedly before open operation is resorted to, because there is a better chance for passage when stones are in the lower ureter than when they are in the upper ureter.

Impacted Stones.—If, according to the history, the stone has remained in one position, and this can be verified by roentgen rays, the possibility of success with nonoperative measures is not very great; for not infrequently at operation the stone is found firmly imbedded in the ureter, and at times it may be situated in a diverticulum.

Failure of Careful Nonoperative Treatment.—To determine what is responsible for the failure of this treatment is difficult, but its success depends in part on the patient's willingness to cooperate, as well as the surgeon's desire to carry out the treatment. Not infrequently the patient is given an injection of oil, and,

if the stone is not passed immediately, he is told that the condition will never respond to treatment and an operation must be performed. Again, some are willing to carry out the treatment a certain number of times, and if this fails, operation is advised.

Supression of Urine.—This condition calls for immediate surgical operation, especially if one kidney has been previously removed, or if it is the seat of extensive destruction due to calculous disease, and the stone is in the opposite ureter.

Acute Pyelonephritis.—Repeated attacks of acute pyelonephritis are of sufficient moment to warrant immediate operation, especially if the attack follows each instrumental manipulation.

Reaction to Treatment.—Certain patients, for one reason or another, do not tolerate instrumentation, so that following each treatment they suffer from severe pain, chills and fever, and sometimes bleeding and severe bladder distress. In this group of cases, the cure is worse than the disease, and it seems wise to lose no time with instrumental treatment, but to operate as soon as possible (Fig. 7).

RESULTS

In presenting this series of cases, it was the purpose to study and compare the results obtained by means of the various forms of nonoperative treatment. Although much has been written on the subject of the treatment of stone in the ureter, publications dealing with a critical review of the various forms of treatment,

TABLE 6.—*Results in Author's Cases*

	Number of Cases	Percentages
Calculi passed without treatment	37	26.428
Calculi passed after manipulation and oil injections	46	32.857
Operations	16	11.428
Stopped treatment	13	9.285
No treatment instituted	26	18.571
Under treatment	2	1.428

carried out in a large or small series of cases, are rather rare. To go over the records and tabulate the results of treatment was a primary object of this paper.

In Table 6, the number of cases treated and the results, as well as the percentages, are given.

From a perusal of the table, it will be seen that 26.428 per cent. of these patients passed the stones without the aid of surgery of any sort, a figure slightly higher than figures given by Judd.

In forty-six cases, or 32.857 per cent., the stones were passed following various types of nonoperative treatment, which consisted in thirty-five cases of the passage of ureteral catheters and injections of sterile oil into the ureter, and, in the eleven remaining cases, of simple passage of the ureteral catheter, slitting of the ureteral orifice and injection of papaverin. In some of these cases, local anesthesia of the ureter preceded the oil injections.

Open operations were performed in sixteen cases, or 11.510 per cent. Five of these cases had previously been subjected to nonoperative treatment, as described above. This treatment was discontinued after prolonged use, because of the onset of acute pyelonephritis, or because the patients did not tolerate instrumentation; and open operation was subsequently carried out. In the eleven remaining cases, operation was instituted without previous cystoscopic treatment.

Thirteen patients, or 9.285 per cent., stopped treatment for various reasons, and the result could not be determined. It is reasonable to assume that a certain number may have eventually passed the calculus.

No treatment was instituted in twenty-six cases, or 18.571 per cent. Some of these patients were seen in consultation; some lived out of town, and some refused treatment.

Two cases are still under treatment.

122 South Michigan Avenue.

THE DIAGNOSIS OF SARCOMA IN BONE

REPORT OF CASE

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The vast amount of information revealed to us by means of the roentgen ray in the diagnosis of pathologic conditions of bone still leaves us at the threshold of a proper understanding of this field of medicine.

A confused terminology, incomplete clinical reports, too few histologic examinations and single roentgenograms, when a series should have been made, are what one finds in a fairly voluminous literature.

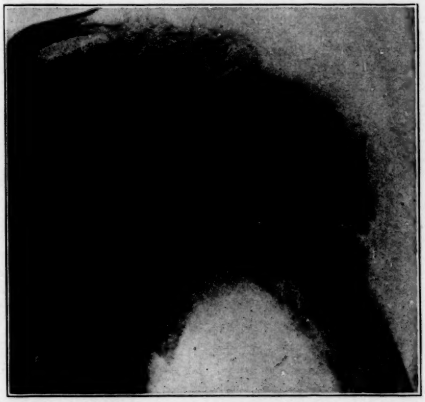

Fig. 1.—The growth is limited to the diaphysis, and it will be noted that throughout the series of roentgenograms the epiphysis remains uninvaded by the tumor; the cortex is already broken, and there is new formed periosteal bone. Cartilage, having neither blood nor lymph vessels, is not attacked by neoplastic processes. Undeveloped epiphyses, such as occur in the young, are therefore not invaded.

Many attempts have been made to correlate these bone lesions pathologically, from their roentgenographic appearance. Such classification is peculiarly difficult, and as yet no satisfactory grouping has been made. Much of the difficulty is a consequence of our attempt to translate at once the roentgenographic plate into terms of pathology; in other words, to seek on the plate the markings that spell sarcoma or osteomyelitis.

I believe there never will be found any hard and fast lines or infallible marks of differentiation in the roentgenographic diagnosis of bone lesions, on account of the nature of the medium in which the pathologic process occurs. Bone has a certain definite way of responding to irritation, it makes no difference whether the provocative be of a malignant or of a benign nature; bone can only do what bone can do. If periostium is

irritated from a benign or a malignant cause, it will form new bone; if it is irritated from an inflammatory process or from a traumatic cause, it will form new bone.

The presence of the new bone itself is not indicative of the nature of the process stimulating its production.

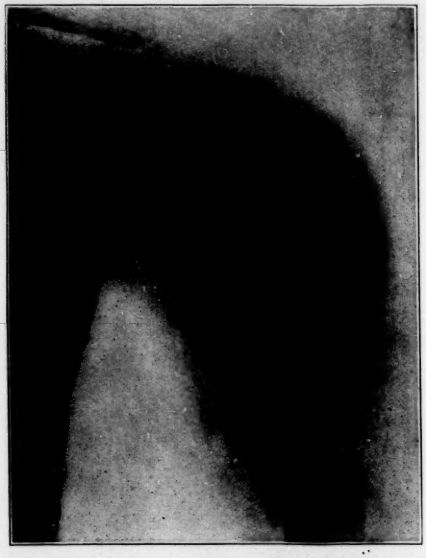

Fig. 2.—Advance in growth of tumor, and the disposition of new formed bone to be laid down in spicules at right angles to the axis of the bone.

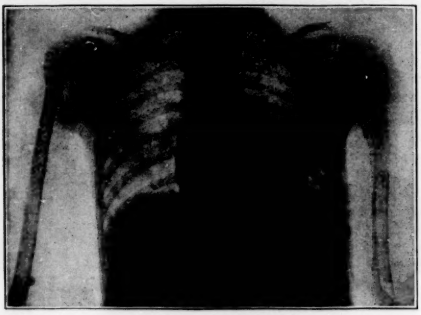

Fig. 3.—Appearance of centrifugal growth and metastasis in the mediastinum, Oct. 16, 1921. The medullary canal was nearly completely involved in the tumor. The epiphysis was still not invaded by the growth. There was noticeable relative shortening of the humerus on the affected side as compared with that on the normal side, even though the epiphysis was apparently not involved, indicating that its growth controlling function had been intercepted.

The distribution and the manner in which the new bone is laid down will, however, often suggest the nature of the pathologic process.

There are various other reactions in bone that manifest themselves in the roentgenogram. These are atrophy, sequestrum formation, cloaca formation, absorption areas and cortical thickening, each one of them of considerable aid in establishing the diagnosis.

In order to correlate the roentgenologic finding with the pathologic process, we must read the roentgenogram by an intelligent interpretation of the various signs of bone reaction as portrayed therein.

Of the reactions mentioned, all are late manifestations except new bone formation; which is also the most constant of these pathologic changes.

It may be stated that generally when new bone is developed as a result of an inflammatory process it is laid down parallel to the axis of the bone, and when developed as a result of neoplastic irritation, it is laid down in plaques or spicules at right angles to the axis of the bone.

In medullary neoplasm, before there is any evidence of new bone formation, the bone cortex will be found fissured, as though from some powerful centrifugal force. This is a result of extension of the growth along the haversian canals, producing the appearance of a bomb at the moment of bursting.

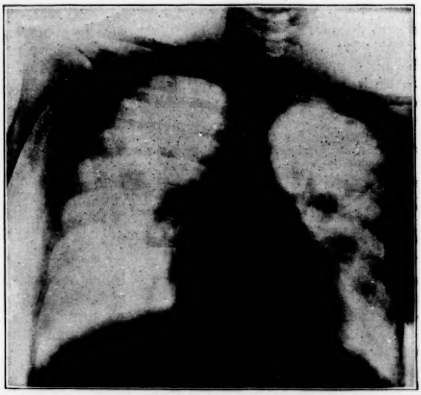

Fig. 4.—Further growth of mediastinal metastases, October 22.

Figure 1 shows this exceedingly well. This centrifugal growth is manifest in the entire series of roentgenograms.

In examining a roentgenogram of bone sarcoma, we must realize that we are not looking at the roentgenogram of the tumor but of a bone struggling in its way to protect itself from the invasion of disease, and that the shadows that we see must be interpreted much in the way that the roentgenologist interprets the roentgenogram of a bismuth meal. From the shadows that he sees, which are of a material entirely foreign, he interprets the nature of the disease; and so I believe that, until we examine our roentgenograms from this standpoint, we are not going to make definite advances in roentgen-ray diagnosis.

In very early lesions of bone, the roentgen ray is inevitably going to fail us in diagnosis (fractures and dislocation do not enter into this discussion), for the reason that the changes in bone that can be shown by the roentgen ray take a definite time to occur. Acute osteomyelitis or acute epiphysitis shows no definite lesion

until after one week at least, and neoplasm in bone after a much longer time.

I have had the opportunity to observe the course of a rapidly growing and fatal medullary sarcoma of the humerus in a child.

REPORT OF CASE

A girl, aged 7 years, whose father was 34 years old, living and in good health, whose mother died at the age of 29 years, following burns, but was healthy preceding this accident, and who had two brothers and one sister, living and well, in July, 1921, was struck on the shoulder while playing. She did not complain of any pain at that time, but a swelling was noticed at the upper third of the humerus. July 19, she was brought to the Hospital for Joint Diseases. The swelling was readily detected. It was fusiform in outline, occupying the entire circumference of the humerus in its upper third, but not including the epiphysis.

A roentgenogram was taken at once. The upper third of the humerus was found to be enlarged. The cortex was

Fig. 5.—Great mass of centrifugal bone formation, November 18. The epiphysis apparently was still uninvolved, but the entire diaphysis is involved. It will be noticed that the new bone is arranged in spicules laid at right angles to the shaft of the humerus. This is typical of neoplastic bone formation. It is asserted that in round and spindle cell sarcoma, the destructive process is so rapid that new bone formation cannot occur. This statement seems not to be universally true, at least not in the later stages of the growth.

fissured. The epiphysis was not involved, and there was no new bone formation or periosteal thickening. We felt reasonably certain that we were dealing with a malignant growth of considerable virulence, probably sarcoma of the small round cell type.

It is our routine to place all these patients under a rigorous antisyphilitic treatment, regardless of the Wassermann reaction, which in this case was negative. In bone and joint cases, we do not use arsphenamin, as we find it less effective than mercury. In using mercury, we attempt to force it speedily to a point of saturation (salivation), then wait a couple of weeks, and salivate a second time.

If the clinical symptoms are markedly alleviated, we continue with mercury. If the mercury has not affected the condition, we discontinue its use. That was done with this child.

August 17, the child was again examined by roentgen ray. The growth showed a rapid advance for one month. The

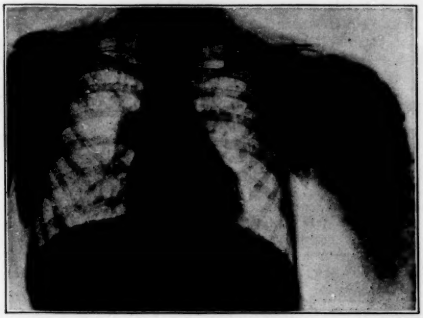

Fig. 6.—Advance of the thoracic metastasis (Jan. 24, 1922). In this enormous growth, the epiphysis seems still able to resist the neoplastic invasion.

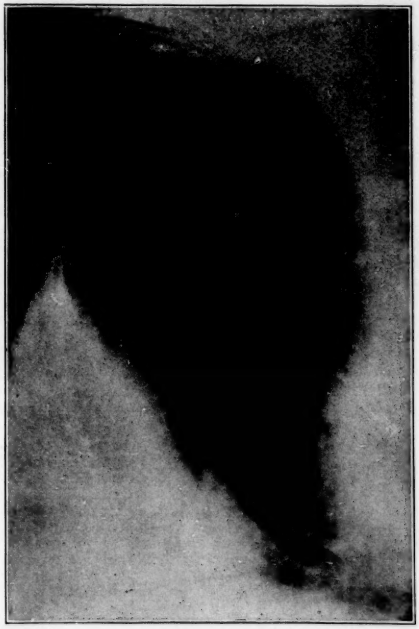

Fig. 7.—Appearance of growth toward the fatal termination.

question of amputation was considered, and the father was consulted. On being told of the extent of the deformity following amputation at the shoulder, he was definitely opposed to it.

Even at this time, we believed that the growth had advanced beyond the limits of operability.

The blood showed a secondary anemia throughout the course of the illness. The urine was normal. The child was then referred to Dr. H. B. Philips for roentgen-ray therapy. In the last two weeks of August, 1,000 mg. hours of radium was administered by cross fire through the upper humerus, and intensified roentgen-ray cross fire irradiation of the chest. The first two weeks of September, about 1,500 mg. hours was administered by cross fire through the upper humerus and the same roentgen-ray cross fire given the chest. During the month of October, the patient received interstitial irradiation.

October 11, four radium needles of 12.5 mg. each were inserted into different portions of the tumor for twenty-four hours. This was repeated at weekly intervals, so that in a month every portion of the tumor was irradiated, and a total of 5,000 mg. hours was given interstitially in the course of about five weeks.

As the chest metastases and the primary tumor progressed unfavorably notwithstanding this extremely heavy treatment, it was discontinued at this time.

The growth assumed enormous proportions, as will be seen from the photograph. The child suffered comparatively little. Death ensued, and necropsy was not permitted.

Fig. 8.—Appearance of growth, indicating its size.

COMMENT

This case is typical of rapidly growing bone sarcomas.

From the standpoint of malignancy, there is probably no neoplastic process more rapidly destructive. Metastases occur early, usually in the mediastinum. The roentgen ray and radium are of very questionable benefit. Our sole resort is amputation at the earliest moment.

35 West Eighty-First Street.

Relation of Hospital Personnel.—The purpose or function of an institution should determine not only the type but the relation and distribution of its personnel. Whatever may be the process or processes through which the result sought may ultimately be effected, it is desirable that a person seeking such result through an institution created for the attainment of that end should be as immediately as possible related to those whose discernment in the matter has been "sharpened to a point" through training and experience. The failure to appreciate the importance of such adjustments has been, and still is, one of the outstanding weaknesses of hospitals and dispensaries, owing mainly to an inadequacy of funds and, ipso facto, an insufficient and inefficient personnel.—A. W. Goodrich, *Hospital Social Service* **7**:170 (March) 1923.

CONGENITAL TOTAL HEMIHYPERTROPHY

REPORT OF CASE *

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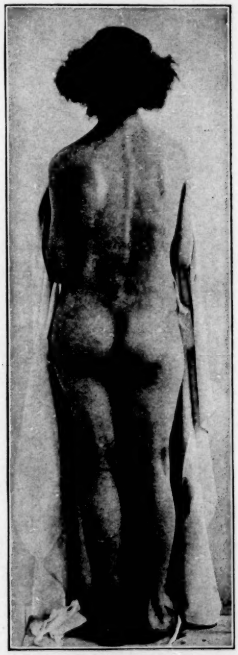
Congenital total hemihypertrophy, characterized as the name implies, by symmetrical enlargement or hypertrophy of the whole side of the body, is one of the rarest anomalies known to medicine. Its rarity can be appreciated by the fact that, in a complete survey of the literature on this subject, but forty-one cases of true hemihypertrophy could be collected. An example of this curious anomaly of development came under our observation recently, and it is because of its rarity and interest that we wish to report it here, with a brief review of the literature.



Appearance of patient with hemihypertrophy.

REPORT OF CASE

History.—A. P., a white girl, aged 16, admitted to the service of Dr. Stanton at the Passavant Hospital, June 12, 1921, complained of a small tumor in the left breast which she had noticed for a month previously. In the course of a routine physical examination, it was noticed that the entire left side of the body was more developed than the right. This condition, the patient stated, had been present since birth and had caused her little inconvenience. Since the right leg was shorter than the left, she was forced to limp slightly. When younger, on account of the increased size of the left side of her tongue, she had had difficulty in talking, and especially in pronouncing "th's." As she grew older, this became less and less noticeable, until at present it is very slight. The right side of the body seemed to her to be the stronger side, and she seemed to be able to lift and carry things better with the right hand than with the left. Other members of the family verified the fact that this condition was congenital, and also stated that it was most marked in her tongue, often causing difficulty in swallowing and later in talking. This condition became greatly improved as the child grew older.

The delivery of the child had been perfectly normal, and the pregnancy uncomplicated. As a child, she had always been well, except for measles and whooping cough. She was alert mentally. She graduated from public school, and had finished two years of high school at the age of 16. At

* Read before the Pittsburgh Academy of Medicine, Feb. 6, 1923.

this time, she was employed as a stenographer. Her mother had died of tuberculosis. Her father was an alcoholic. She had four sisters and four brothers, all of average size. Nowhere in the family was there a history of a similar condition. When admitted to the hospital she felt perfectly well and, except for the lump in her breast, had no complaints. There was no menstrual irregularity.

Physical Examination.—The patient was well nourished, weighing 118 pounds (53.6 kg.), with a height of 5 feet and 5 inches. There was a distinct difference in size between the right and the left side of the body. Measurements were taken to verify this. Differences in size noted are given in the accompanying table. The left cheek was bigger than the right and the left half of the tongue distinctly larger than the right. The thyroid gland was slightly enlarged, probably of a juvenile type. The breasts were well developed, and the left contained a small, freely movable mass in its lower and inner quadrant. The pubic hair was feminine in type and the external genitals were well developed, there being no evidence of sexual dystrophy, suggestive of pituitary disturbance. To compensate for the increased length of the lower extremity, the right shoulder was drooped and scoliosis was present. Aside from these findings, the examination was negative. The accompanying illustration shows the character of this anomaly.

Laboratory findings in this case were negative. Roentgenograms were taken of the entire bony skeleton, revealing the fact that the enlargement was present not only in the soft structure but also in the bones of the left half of the body. The pituitary fossa was found to be normal.

Operation and Course.—The small tumor in the left breast was removed without difficulty. It proved to be a fibroadenoma. The patient made an uninterrupted recovery, and left the hospital, June 24.

Variation in Measurements of Right and Left Sides

Part Measured	Right Inches	Left Inches	Difference Inches
Head, circumference	10½	11½	1
Width of orbit	2¼	2½	¼
Width across shoulders	8½	9	½
Arm length	12½	13	½
Forearm length	8¾	9	¼
Arm girth	7¼	8¼	1
Forearm girth	7⅜	8½	1⅛
Wrist girth	6	6¼	¼
Middle finger, length	3⅜	4¼	⅜
Chest, breadth	5½	6½	1
Abdomen, circumference	12	15	3
Abdomen, umbilicus to anterosuperior spine	5	6	1
Pelvis, circumference	15	18	3
Lower external anterosuperior spine to internal	32	34	2
Thigh, girth	17	19	2
Leg, girth	12⅜	14	1¼
Foot, girth	9¼	10	¾
Leg, length	14½	15¼	1
Tip of big toe to heel	10¾	10¾	¼

REVIEW OF LITERATURE

Probably the earliest case of true hemihypertrophy on record was reported by Desvousges [1] in 1856. Since then, forty-one others have been reported by various authors, only seven of which were found recorded in American literature. Various names have been used to describe it: unilateral macrosomia, hemimacrosomia and unilateral gigantism, but congenital total hemihypertrophy seems to be the most popular term. The exact nature of the factors causing this curious developmental anomaly is as yet obscure. That it is congenital and not hereditary, most authors agree. The family history in these cases is usually satisfactory, especially as to history of deformities. Various theories have been advanced as to its origin. Some suggest that the condition resembles acromegaly, but no evidence of pituitary disease has been found in any of the reported cases. Mummery [2] believes it to be due to one half of the body growing faster than the other half, and that this unequal growth is progressive. This has not been the experience of other authors, who found that the hypertrophy was usually stationary, any increase being very inappreciable. Thus Ahlfeld,[3] Wagner [4] and Moebius [5] reported a case which they separately observed over a period of eleven years, and found no difference in the measurements of the two sides of the body. That it is truly a hypertrophy and not a hemiatrophy can be readily seen by observation, for the tissues on the unaffected side are well developed and of normal size and structure.

Other theories, attributing it to diseases of the central nervous system, to trophic influences or to enlargement of the blood vessels on the affected side, with corresponding increase in blood supply and overnutrition on this side, have also been advanced, but these theories have few supporters. Probably the most logical explanation of its origin is that it consists in an erroneous deviation from the normal course of development in the embryonic period (Gesell [6]), probably in the cleavage stage.

Pathologically, the condition consists of a unilateral hypertrophy of the soft structure vessels and bones, and occasionally of the paired organs. Necropsy in several cases has shown that such paired organs as the kidneys, brain or testes are enlarged correspondingly on the affected side; also that the larger blood vessels, such as the carotid and subclavian, show enlargement on the affected side. In one case (Gordinier [7]) which came to necropsy, examination of the pituitary body and sella showed that these organs were normal.

Hornstein [8] examined the tissues microscopically in two cases and found that the hypertrophy was limited to the soft parts, i. e., the subcutaneous tissues, muscles and, to a less extent, the skin; and that the thickening of the bones, especially the epiphyses, was chiefly due to an increase in interstitial connective tissue. He also found an increase tissue in the peripheral nerves.

The characteristics of this curious anomaly are well brought out in the case reported above. The case differs a little from the average in that it occurred in a girl and the left side was affected. The majority of cases reported occurred in males, and the right side was usually affected. As in our case, aside from a slight limp in walking, the condition usually occasioned little inconvenience. The patients were quite healthy and of good intelligence usually, although in several cases the anomaly was associated with definite mental defect (Gesell's case [6]).

A very common finding in the reported cases is the presence of nevi in the skin. Simple capillary nevi are the most common type, but at times larger telangiectases are present. These nevi are not limited to the affected side alone but are generalized over the body, although the right side is most often affected. These nevi become more marked when the child cries; at times, instead of definite nevi being present, large areas of the skin

1. Desvousges: Bull. Soc. anat. de Paris **31**: 510, 1856.

2. Mummery, P. L.: A Case of Hemihypertrophy, Proc. Roy. Soc. Med., London, Clinical Lecture 61 **1**, 1907-1908.

3. Ahlfeld, T.: Die Missbildungen des Menschen, Leipzig, F. W. Grunow, 1880-1882.

4. Wagner, P.: Zur Casuistik des angeborenen und erworbenen Riesenwuchs, Ztschr. f. Chir. **26**: 281, 1887.

5. Moebius: Ueber Hemihypertrophie, München med. Wchnschr. **37**: 751, 1890.

6. Gesell, Arnold: Hemihypertrophy and Mental Defect, Arch. Neurol. & Psychiat. **6**: 400 (Oct.) 1921.

7. Gordinier, H. C.: A Case of Unilateral Hypertrophy of the Whole Left Side, with Necropsy, Albany M. Ann. **39**: 47 (Feb.) 1918.

8. Hornstein, S.: Ein Fall von halbseitigen Riesenwuchs, Virchows Arch. f. path. Anat. **133**: 440, 1893.

would become congested when the child cried, as in a case reported by Finlayson.[9]

In some of the cases, other peculiarities not already noted have been observed; for example, excessive secretion of the sebaceous and sweat glands, a thicker growth of hair, more rapid growth of nails, higher temperature by a degree or two and earlier eruption of teeth, all on the affected side. In a few cases, enlargement of fingers and toes on the otherwise normal side have been noted. No abnormality in position of any of the viscera has ever been detected in any of the cases.

The diagnosis of this condition offers no difficulty. Observation is usually sufficient to distinguish it from any other condition which might in any way resemble it. From hemiatrophy, it is readily differentiated by the fact that the unaffected side shows no signs of atrophy but is normally formed in every respect. Acromegaly should offer no difficulty either, since it is bilateral, confined chiefly to the hands, face and feet, and is not congenital. Often, too, changes in the sella turcica and pituitary can be found by the roentgen ray. This does not occur in hemihypertrophy.

The prognosis in these cases is always good. The condition is usually nonprogressive; hence, patients or relatives can be told that the deformity is unlikely to become worse and that it will not seriously interfere with the child's future. The limp may be overcome by means of an extension shoe. Except for the correction of this deformity, no treatment is required.

9. Finlayson, J.: On the Case of a Child Affected with Congenital Unilateral Hypertrophy and Patches of Cutaneous Congestion, Glasgow M. J. Series 4, **22**: 327, 1884.

IMPORTANCE OF PHRENIC SHOULDER PAIN IN DISEASE INVOLVING THE DIAPHRAGM *

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Pain produced by irritation of the diaphragm is never localized within the diaphragm, but is always referred to some distant portion of the body. When one considers the frequency with which disease occurs in the region of the diaphragm, the importance of a familiarity with the locations of the referred pain from this organ is quite apparent.

ANATOMY AND PHYSIOLOGY OF THE PHRENIC NERVE

The phrenic nerve has its origin from the third, fourth and fifth cervical nerve roots. The largest number of its fibers arise from the fourth cervical root. There has been some doubt and some difference of opinion in regard to the distribution of the phrenic nerve. It is known to have both motor and sensory fibers. Ferguson,[1] in 1891, proved experimentally that the phrenic nerve contains sensory fibers, but the extent of its innervation has not been accurately determined. It has, however, been fairly well established that the nerve supplies sensory branches to both the pleural and the peritoneal surfaces of the diaphragm except at the rim, where both surfaces to some extent receive sensation from the sixth to the twelfth intercostal nerves. Experimental and clinical observations have very definitely proved that the pleural pericardium is supplied with sensation by the phrenic nerve. Sensory fibers also reach as far as the suprarenal bodies. The coronary ligament of the liver, and possibly the liver itself, is also supplied by this nerve. It communicates with the diaphragmatic plexus, which in turn communicates with the semilunar ganglions of the solar plexus.

The embryology of the diaphragm and phrenic nerve is of interest in this connection. Mall[2] has stated that, in its development, the whole diaphragm wanders from the head to the abdomen, passing by, as well as modifying, the structures and organs along the way. In the head region of the early embryo lies the anlage of the diaphragm, together with those of the heart and liver. In fact, the three embryonic body cavities, pericardial, pleural and peritoneal, arise from the embryonic head and neck region, and descend to their anatomic positions during development. The phrenic nerve, which arises in the cervical region, enters the diaphragmatic anlage and, as the organ descends, lengthens to give it innervation. A study of the development of the heart, liver, diaphragm, lungs and stomach explains the passage of the phrenic and vagus nerves through the thorax. With this in mind, the innervation of the pericardium, diaphragmatic pleura and peritoneum, liver and suprarenals by the phrenic nerve are quite well understood.

In a consideration of the physiology of the phrenic nerve and other nerves supplying the diaphragm, the general laws of the production and distribution of visceral pain, as outlined by Head,[3] have here direct practical application. Referred pain from the viscera has been summarized in these four statements:

1. It is often remote from the site of the irritation.
2. It follows lines on the skin of the spinal segmentation rather than the course of the peripheral nerves.
3. It is usually associated with cutaneous hyperesthesia and tenderness to pressure.
4. Often the pain fails to involve the whole segmental area of the skin, but finds expression in one or more points of maximal tenderness and spontaneous pain.

In 1911, Capps[4] of Chicago made an experimental study of the pain sense in the pleural membranes. This was an excellent piece of work and, if correct, clears up to some extent the innervation of the diaphragm. His observations were made in cases of pleurisy with effusion, by introducing a wire through a cannula into the pleural cavity and noting the location of the pain when various parts of the parietal, visceral and diaphragmatic pleura were irritated. He concluded that the visceral pleura is not endowed with pain sense. The parietal pleura is supplied by the intercostal nerves, and irritated points on its surface are accurately localized, by the person, over the spot touched. Such irritations never give rise to referred pain in the neck or abdomen. The diaphragmatic pleura receives its sensory supply from the phrenic nerve and lower six intercostal nerves. The central portion of the diaphragm is innervated by the phrenic nerve, and irritation of this portion causes pain in the neck and shoulder on the corresponding side. The peripheral rim of the diaphragmatic pleura for a distance of 2 or 3 inches in front and lateral, and for about one third of the distance posterior is innervated by the sixth to twelfth intercostal nerves. Pain in this area causes referred

* Read before the Kansas City Academy of Medicine, April 6, 1923.

1. Ferguson, J.: The Phrenic Nerve, Brain **14**: 282, 1891.

2. Mall, F. P.: On the Development of the Human Diaphragm, Bull. Johns Hopkins Hosp. **12**: 158, 1901.

3. Head, Henry: Disturbance of Sensation, with Special Reference to Pain of Visceral Disease, Brain **16**: 1, 1893; On Disturbances of Sensation, with Especial Reference to the Pain of Visceral Disease (Part II Head and Neck), ibid. **17**: 339, 1894.

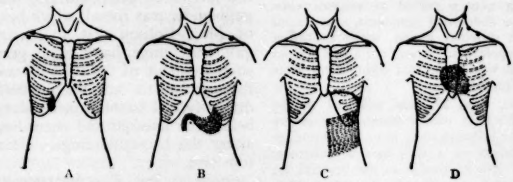
4. Capps, J. A.: An Experimental Study of the Pain in the Pleural Membranes, Arch. Int. Med. **8**: 717 (Dec.) 1911.

pain to the lower thorax, lumbar region and abdomen. This is a true referred pain. It is distributed in segmental areas over the regions noted. Irritation of the pericardial pleura causes pain in the neck in a location the same as that produced when the central portion of the diaphragm is irritated.

Capps and Coleman [5] have recently studied the pain produced by irritating the under surface of the diaphragm by means of a wire introduced through a cannula in patients having ascites or pneumoperitoneum. They conclude that pain produced by stimulation of the diaphragm is never located in the diaphragm itself, but is referred to some distant part. Stimulation of the central portion of the diaphragm produces pain along the trapezius ridge. Stimulation of the outer diaphragm margin causes pain over the lower costal region and subcostal abdominal wall.

CLINICAL OBSERVATIONS

It seems quite evident, in talking with my medical and surgical confrères, that the shoulder and neck pain frequently produced in disease involving the diaphragm is not given its proper importance as a diagnostic aid. On the other hand, clinicians are constantly on the alert for referred pain to the abdomen in chest conditions, and all enlightened medical men consider such pain in their differential diagnoses. The following is a list of conditions in which phrenic shoulder pain or neck pain has been described: pneumonia, pleurisy, pericarditis, pulmonary infarct, actinomycosis of lower right lung, liver abscess, perforated gastric or duodenal ulcer, subphrenic abscess, cholecystitis with peritonitis, perforation of gallbladder, perisplenitis, rupture of spleen (spontaneous), acute pancreatitis, appendicitis, ruptured extra-uterine pregnancy, pressure of drainage tube, and suprarenal tumor.



Location of referred pain to neck and shoulder region: *A*, gallbladder disease; *B*, perforated duodenal ulcer; *C*, pneumonia with diaphragmatic pleurisy; *D*, pericarditis.

Referred pain to the shoulder or neck is characterized by its spontaneous appearance, and its accurate localization in the distribution of a spinal segment or to a small portion of the segmental sensory distribution, by accompanying hyperesthesia and hyperalgesia, and often by increase of pain during deep respiration, cough or change of position. At times the pain is quite severe. It has been described by patients as feeling as if a nail were driven into the joint. In one of Oehlecker's [6] cases of old tuberculous pleurisy with empyema, the pain was so severe that he was led to section the phrenic nerve in the neck on that side.

Pain referred to the abdomen from the diaphragm is in the abdominal wall and not in the viscera. Here hyperesthesia and hyperalgesia are a differential feature. As a rule, deep pressure is well borne in referred pain, a fact that is not the case in disease involving the abdominal viscera.

Capps [7] has reported sixty-one clinical cases with diaphragmatic pleurisy, in which fifty-four patients had referred pain to the abdomen. Thirty-three had referred pain to the neck and shoulder, which was more than 50 per cent. of the total number.

Cope [8] of London, in 1922, presented a clinical study of phrenic shoulder pain, and attempted to establish a localizing correspondence between the part of the diaphragm irritated and the part of the shoulder to which the pain is referred. He presented cases to show that irritation of the anterior part of the diaphragm causes pain in the anterior part of the corresponding shoulder, and irritation of the posterior part of the diaphragm supplied by the phrenic nerve causes pain in the suprascapular region. The experimental work of Capps [4] is contradictory to these clinical findings of Cope. Capps writes: "The maximum pain point in a given individual was the same from whatever part of the diaphragm it was elicited."

Regardless of the exact location of the pain point in disease involving certain portions of the phrenic sensory distribution, the value of the symptom is not lessened. In many diseases, especially those in the abdomen, the existence of a shoulder or neck pain is a distinct adjunct in diagnosis. Waring [9] reports a case of amebic abscess of the liver, in which pain in the shoulder region was the only symptom indicating the location of the disease. Its presence is definite evidence that the sensory distribution of the phrenic nerve is involved in the irritation. To be of value, referred neck and shoulder pains must be carefully differentiated from pain due to disease in and about the shoulder.

In those diseases having a direct contact with the diaphragm, it is quite clear that the pain is referred through the phrenic nerve to the spinal cord and out into the neck and shoulder region through the third, fourth or fifth cervical nerves. In such conditions as appendicitis, ruptured ectopic pregnancy, suprarenal tumor, gallbladder disease, perforated gastric or duodenal ulcer, acute pancreatitis and pressure from drainage tubes, a word of explanation may be advisable. Shoulder pain in acute appendicitis is rare. To produce such pain it is, of course, necessary for infection to come in contact with the phrenic nerve. The length and location of the appendix may be factors in this involvement. It is well known how frequently subdiaphragmatic inflammation follows suppurative appendicitis. Evidence of phrenic nerve irritation in such a condition may be of great value. Pain in the shoulder region associated with rupture of an extra-uterine pregnancy can be caused only by a flow of blood to the subdiaphragmatic region. In suprarenal tumor, the cause of the referred pain is more direct, since the suprarenal capsule receives sensory fibers from the phrenic. Mayo-Robson [10] has reported three clinical cases of suprarenal tumor in which this symptom was well developed. It is quite probable that cholecystitis, stone in the cystic duct and stone in the common duct

5. Capps, J. A. and Coleman, G. H.: Experimental Observations on the Localization of Pain Sense in the Parietal and Diaphragmatic Peritoneum, Arch. Int. Med. **30**: 778 (Dec.) 1922.

6. Oehlecker, F.: Zur Klinik und Chirurgie des Nervus phrenicus, Zentralbl. f. Chir. **40**: 852, 1913.

7. Capps, J. A.: A Clinical Study of Pain Arising from Subphrenic Inflammation and Diaphragmatic Pleurisy, Am. J. M. Sc. **151**: 333 (March) 1916.

8. Cope, Zachary: Clinical Study of Phrenic Shoulder-Pain, Brit. J. Surg. **10**: 192 (Oct.) 1922.

9. Waring, E. J.: An Enquiry into the Statistics and Pathology of Some Points Connected with Abscess in the Liver as Met with in the East Indies, 1854.

10. Mayo-Robson, A. W.: Three Cases of Removal of the Suprarenal Capsule, Brit. M. J. **2**: 1100 (Oct. 21) 1899.

do not cause the phrenic nerve shoulder pain here considered, unless there is associated with these diseases some peritonitis, congestion or edema of the adjacent parts which come in contact with the phrenic nerve endings. This type of shoulder pain in gall tract disease is not to be confused with the textbook "shoulder pain," which is pain referred to the region of the scapula. It is not quite clear what tissues in the region of the gallbladder are innervated by the phrenic nerve. Clinical observations indicate that the right crus of the diaphragm and perhaps other tissues about the cystic duct receive phrenic nerve supply. Perforations of the stomach and duodenum cause diaphragmatic irritation by direct extension of the alimentary tract contents or a subsequent peritonitis to the diaphragmatic region. This is true also of acute pancreatitis, although here the left semilunar ganglion may receive the irritation. Mayo-Robson relates two cases in which pressure from a drainage tube to a gallbladder stump caused pain in the right supraspinous fossa. These were explained by pressure on the right crus of the diaphragm and the vena cava. Removal of the tubes gave prompt relief.

REPORT OF CASES

CASE 1.—B. B., a man, aged 41, was admitted to Bell Memorial Hospital, Dec. 20, 1922, with a diagnosis of perforated gastric or duodenal ulcer that had occurred five hours before. He had intense epigastric pain, vomiting and board-like rigidity of the upper abdomen. There was a history of stomach trouble extending over a period of several years. Soon after the onset of the abdominal symptoms, a persistent pain developed in the left shoulder region, which continued without interruption until operation. It was not again noticed after operation. Operation was performed eight hours after perforation. The patient recovered.

CASE 2.—H. R., a man, aged 27, was admitted to the Veterans' Hospital, Nov. 22, 1921, with a complaint of severe pain in the left chest, upper left abdomen, head, left shoulder and back. He gave a history of a chill two days before, followed by a high fever. On admission to the hospital, he appeared quite ill. His chief pain was in the left lumbar region, left upper abdomen and left shoulder. He had a leukocytosis, and albumin and pus in the urine. On examination, he was quite tender in the left lumbar region and upper abdomen along the costal margin. Perinephric abscess had been diagnosed by the physician who made the first examination. On careful examination, however, the day after admission, the foregoing findings were noted and, in addition, a few moist râles were found at the base of the left lung in the midaxillary line. A slight cough had also developed. The pain continued for three or four days in the left upper abdomen and loin, and was also quite severe in the region of the left acromion process. A diagnosis of pneumonia involving the diaphragm was made and confirmed by the later clinical course.

CASE 3.—C. F., a woman, aged 34, was admitted to the Bell Memorial Hospital for a gallbladder operation. The history corresponded to that of gallbladder disease which had lasted for one year. During some of the attacks in the gallbladder region, there was a definite pain in the region of the right shoulder, located by the patient near the acromioclavicular joint and just above the coracoid process. This was always associated with pain in the gallbladder region, and was increased by deep breathing and lying on the left side. At times the pain in the shoulder region was much more severe, and disturbed the patient much more than the abdominal pain. There was not at any time any pain referred to the scapular region. There was, however, a pain which seemed to extend around the costal margin from the gallbladder to the upper part of the right flank. At operation, a gallbladder was found with slightly thickened wall and definitely involved in adhesions over its lower half and about the cystic duct. There were no shoulder pains after the removal of the gallbladder.

CASE 4.—A girl, aged 11, whom I observed during my intern service in St. Mary's Free Hospital for Children in New York in 1912, had been admitted to the hospital several times for heart disease. She had both endocarditis and pericarditis. During her stay in the hospital, she complained bitterly on many occasions of pain in the left shoulder region and neck. This we interpreted as due to the pericarditis, since there was no evidence of local disease in or about the shoulder.

COMMENT

The four cases here briefly reviewed are typical examples of what may be observed by clinicians at any time. In Case 1, the location of the pain was unusual for perforated duodenal ulcer, since it was on the left side. Perforations of the lesser stomach curvature or near the cardia are more apt to cause left-sided shoulder pain. Perforation of the duodenum usually causes irritation of the right diaphragm. In this case, the pain did not reappear after the operation. Case 2 was a typical case of acute inflammation of the diaphragmatic pleura with pain most intense over the left lumbar muscles, left upper abdomen and left shoulder. There was definite tenderness in the left upper abdomen and in the left lumbar region. The definitely localized pain and tenderness and the urinary findings led to an early diagnosis of perinephric abscess. The third case gave a typical history of gallbladder disease with shoulder pain increased by deep breathing and lying on the left side. At operation, inflammation outside the gallbladder was found, which bears out the observations of Mayo-Robson that, to produce shoulder pain, the gall tract must have some peritonitis, congestion or edema outside of the tract disease. In the fourth case, the pericarditis was an outstanding feature and produced typical burning pains along the side of the neck below the mastoid and extending out a short distance along the trapezius ridge. This area was also quite sensitive.

CONCLUSIONS

1. Referred pain to the shoulder region in diseases involving the diaphragm is a fairly common occurrence.
2. The importance of this clinical symptom is probably not sufficiently emphasized by the average clinician.
3. The diagnostic value of phrenic shoulder pain is definite. When typical, it is a positive indication of an irritation to the phrenic nerve and should be sought where disease is suspected in the upper abdomen or lower chest.

Nutrition and Tuberculosis.—The well fed resist tuberculosis well; the underfed yield readily. Every attack of indigestion, every missed or partially consumed meal has its adverse effect on nutrition at any age of life. . . . The rich business man who hastily consumes a scanty breakfast of toast and coffee and works hard all day in an office with only a hasty lunch at noon cannot consider himself well fed even though he consumes a full meal in the evening. His child who refuses at table wholesome articles of food, such as bread and butter, vegetables and meat, cannot maintain a satisfactory degree of nourishment. . . . A lack of knowledge of food values is very common, especially in cities where delicatessen products made to tempt the eye and palate too often in the busy urban life take precedence over wholesome soups, roasts, and stews from the home kitchen. It should not be forgotten that the fatty articles of food, including butter, fat meats, cream and olive oil, are especially valuable in building up resistance to tuberculosis; but the diet must be suited to the age of the individual. Bread and butter, meat, and abundant vegetables must not be slighted simply because milk and eggs are so commonly mentioned as ideal foods.—F. C. Smith, *Pub. Health Rep.* **38**:779 (April 23) 1923.

THE INTESTINAL LESION IN ANAPHYLAXIS

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One of the characteristic features of canine anaphylaxis is the development of a hemorrhagic lesion in the intestinal mucosa. This lesion is usually confined to the upper half or two thirds of the small intestine, but occasionally it extends as far as the ileocecal valve. It is always most marked in the duodenum. In the milder type of anaphylactic shock, although the mucosa is markedly hemorrhagic, little or no blood escapes into the intestinal lumen. In severer shocks the lumen may be filled with extravasated blood.

It is currently assumed that this hemorrhagic lesion is due to an intestinal engorgement, caused by an increased resistance to blood flow through the liver.[1] A mechanically increased hepatic resistance, however, sufficient to raise the portal blood pressure to the maximum portal pressure observed during anaphylactic shock does not produce this hemorrhagic change.[2] It seems probable, therefore, that factors other than passive congestion of hepatic origin play a rôle in its production. We have endeavored to determine these factors by histologic and physiologic methods.

HISTOLOGIC STUDY

To prepare material for histologic study, the intestines were fixed, at various stages of anaphylactic shock, by injecting nonacid Zenker's solution [3] plus 4 per cent. formaldehyd into the intestinal lumen. At the four to ten minute stage, the intestinal villi are markedly edematous, with stasis in the majority of their blood vessels. The epithelium is usually separated from the central portion of each villus by edematous fluid. The separation is often so marked that the epithelium is inflated to form a small bladder protruding into the intestinal lumen.

At the thirty to ninety minute stage, the epithelium is usually lost. The villi are now reduced to naked connective tissue structures. The outer portion of each structure in immediate contact with the intestinal contents shows altered staining reactions suggesting necrosis.

PHYSIOLOGIC REACTIONS

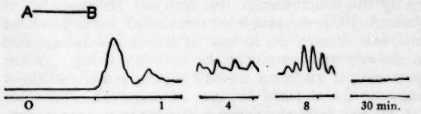
Marked changes were noted in the tone of the intestinal musculature during the anaphylactic reaction. In order to follow these changes, a cannula was tied in one end of a duodenal loop and connected with a mercury manometer. Changes in intra-intestinal pressure were then recorded, following intravenous injection of specific foreign protein. A typical record is shown in the accompanying tracing.

The intraduodenal pressure recorded with the abdomen open is usually about 7 mm. of mercury. On throwing the dog into shock, the pressure usually rises to from 40 to 100 mm. of mercury by the end of forty-five seconds. The pressure then falls to about 20 mm. by the end of ninety seconds, and then gradually increases to about 30 mm. by the end of four minutes. After the fourth minute, the pressure very slowly decreases, reaching about 15 mm. by the end of thirty minutes. Rhythmic contractions of varying strength are usually recorded during the first ten minutes of the test.

PHYSIOLOGIC DEDUCTIONS

The effect of this prolonged increase in intra-intestinal pressure must be interpreted in the light of the parallel changes in arterial blood pressure. During typical anaphylactic shock, the aortic pressure falls to about 40 mm. of mercury by the end of ninety seconds, and then gradually sinks to about 28 mm. by the end of ten minutes. During the recovery period the pressure slowly rises, and is usually restored to normal in from forty to ninety minutes, depending on the severity of the shock.

An uninterrupted intra-intestinal pressure of 20 mm. of mercury, supplemented by the normal intra-abdominal pressure, would presumably completely stop the circulation in the intestinal mucosa during the period of low arterial blood pressure. In a shock of average severity, this stasis would probably last about twenty minutes. It would be followed by a stage of progressively decreasing passive congestion during the recovery period. Even a marked passive congestion of the intestinal mucosa for this length of time would presumably be sufficient to account for the characteristic histopathologic findings.



Changes in intra-intestinal pressure during anaphylactic shock: 12 kg. dog sensitized to horse serum. *A — B*, intravenous injection of 25 c.c. of 50 per cent. horse serum. (Scale, about 1: 2.5.)

The cause of this prolonged increase in intra-intestinal pressure has not yet been determined. It is, of course, conceivable that it is due to muscular contractions caused by intestinal anemia (low arterial blood pressure). It may possibly be partly due to increased tissue pressure from the local edema.[4] In the light of the findings of Schultz, Dale and others, with isolated intestinal strips, however, one is inclined to attribute the reaction to a direct toxic stimulation of the intestinal musculature or of the local nerve endings. An analysis of the factors entering into the reaction will be reported later.

SUMMARY

1. The characteristic intestinal lesion in canine anaphylaxis is a stasis and marked edema of the intestinal mucosa, followed by epithelial desquamation, hemorrhage and superficial necrosis during the later stages of the shock.

2. This lesion is due to a prolonged contraction of the intestinal musculature, increasing the intra-intestinal pressure sufficient completely to stop the circulation in the mucosa during the period of low arterial blood pressure.

1. Weil, Richard, and Eggleston, Cary: Anaphylaxis in Dogs, a Study of the Liver in Shock and Peptone Poisoning, J. Immunol. **2**: 525 (Oct.) 1917. Simonds, J. P.: The Fundamental Physiologic Reactions in Anaphylaxis and Peptone Shock, J. A. M. A. **73**: 1437 (Nov. 8) 1919. Wells, H. G.: The Present Status of the Problems of Anaphylaxis, Physiol. Rev. **1**: 44 (Jan.) 1921.

2. Manwaring, W. H.; Brill, S., and Boyd, W. H.: The Hepatic Mechanical Factor in Peptone Shock, J. Immunol. **8**: 121, 1923.

3. Stock Zenker's solution; acetic acid not added before using.

4. Manwaring, W. H.: Chilcote, R. C., and Hosepian, V. M.: Capillary Permeability in Anaphylaxis, J. A. M. A. **80**: 303 (Feb. 3) 1923.

THE RÔLE OF THE CIVILIAN PHYSICIAN IN THE TRAINING OF CITIZEN SOLDIERS

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The scientific advances of the last century have served to render the science and art of medicine an essential and inherent part of the military art, and no feasible plan for national defense can be devised and carried to a successful conclusion without the cooperation of the medical profession. The individual soldier constitutes the basic unit of any fighting force, and his ability to perform the duties that he may be called on to undertake in the defense of his country is fundamentally dependent on his physical fitness. Of all men, only the physician possesses the knowledge that will enable him to select from the great mass of the national man power those individuals who are physically fit for military service, and to eliminate the incompetents whose presence would tend to prevent the successful outcome of military operations. However, the responsibilities of the medical profession do not terminate with the proper selection of recruits, but on the medical officers of all component parts of the army must devolve the duty of guarding these soldiers against disease until they return again to civil life.

By the enactment of the National Defense Act of June 4, 1920, the people of the United States have for the first time in the history of the nation inaugurated a definite and comprehensive military policy. While provision is made for a small regular army, the major element for defense in time of war will be a force of citizen soldiers, trained during peace, and comprising, at least theoretically, all that part of the population who are eligible for military service. Thus, whereas in the past only professional soldiers and members of the National Guard were, during peace, trained for war, the present plan involves the participation and training of citizens from all walks of life, and this training must be accomplished without undue interruption of their civilian vocations. While the administration of the National Defense Act is, as yet, far from perfect, the experimental stage is past and it can now be definitely stated that the effective development of its provisions will serve to prevent the repetition of many of the unfortunate experiences of past wars, and will provide an army of trained citizens ready and capable of meeting any emergency that may arise in the future.

THE CITIZENS' MILITARY TRAINING CAMPS

By a wise and important provision, the National Defense Act provides short periods of military training for the youths and young men of the country through the medium of the Citizens' Military Training Camps. This feature of the defense plan is one that should appeal to every physician, not only as a valuable means of training men for the performance of their duties as protectors of the nation, should the need arise, but also as a public health measure. The training period consists of thirty days each year, and camps were operated for this length of time in 1921 and 1922. The experiences gained during the thirty days spent in camp under a military regimen exert a decided influence for good on the health of the trainee, who, on his return home, serves to promulgate the gospel of good health among his friends and associates.

The cooperation of the physicians throughout the country is an essential factor in the success of the Citizens' Military Training Camps, actually to a much greater extent than is now realized by the medical profession, in general. The methods employed in selecting applicants for admission to camp and the nature of the training necessitate the close contact of the trainee with the physician from the time he makes application for training until he leaves the camp at the end of the training period.

It is quite apparent that, under the present conditions, the successful operation of any Citizens' Military Training Camp must depend to a very considerable degree on the selection of suitable men as candidates for training; and the responsibility for this selection rests, in the ultimate analysis, on the shoulders of the physician who conducts the preliminary physical examination, by which otherwise qualified applicants are tentatively accepted for training. This examination may be made either by a medical officer of the Army, Navy, or U. S. Public Health Service, or by a civilian physician located in or near the community in which the applicant resides. However, in actual practice it is, as a rule, performed by a civilian physician who may, or may not, hold a commission in the National Guard or Officers' Reserve Corps, but who, in any event, is willing to devote a small part of his time to assisting in the selection of individuals suitable for training.

PHYSICAL EXAMINATIONS

The procedures by which applicants for training are admitted to Citizens' Military Training Camps is now decentralized to the various corps areas. The military organization within the continental United States is divided into nine corps areas, and the operation of the Citizens' Military Training Camps within a corps area is under the direct control of the commander of that corps area. The young man who decides to apply for training in one of these camps obtains an application blank from one of the several agencies to which these blanks have been distributed by the corps area headquarters. He then presents this application blank to his family or other local physician, or to a medical officer of one of the federal services, who conducts the physical examination in accordance with the physical standards specified in the instructions printed on the blank. On completion of the examination, if the examining physician finds that the applicant meets the physical requirements for training, he certifies to that effect on the application blank, which is then returned to the applicant, who forwards it to the corps area commander.

IMMUNIZATION

In addition to complying with the physical standards, it is also required that each accepted applicant be immunized to smallpox and to typhoid and paratyphoid fevers, within the three-year period preceding the day he reports at a training camp. If, on receipt of the report of his preliminary physical examination at corps area headquarters, it is found that he has not been so immunized, but is otherwise acceptable, the necessary typhoid-paratyphoid vaccine is forwarded from corps area headquarters to the physician who conducted the preliminary examination, and the applicant is notified that he should report to him for vaccination against typhoid and paratyphoid fevers. Smallpox vaccine is

not, however, furnished to the applicant by the corps area headquarters because of the difficulties attending its distribution by ordinary mail. If it is determined that the applicant requires vaccination against smallpox, he is notified that he should obtain the vaccine at his own expense, or from local health authorities, and be vaccinated by a physician, preferably the one who performed the preliminary physical examination.

IMPORTANCE OF PRELIMINARY EXAMINATION

This method of provisionally designating and immunizing candidates for admission to a camp possesses many advantages for the applicant and for the physician. To the applicant it affords the opportunity of receiving at the hands of his family physician a thorough physical examination, which, should physical abnormalities be revealed, will provide the basis for the application of corrective measures for the purpose of alleviating or removing such defects. Furthermore, should disqualifying physical abnormalities be detected, a fruitless journey to the training camp is prevented. The preliminary examination provides for the civilian physicians an opportunity to receive training in the requirements and the technic of performing a physical examination for military service, and the vaccinations connnected therewith; training which will be of great value to them and to the nation should it ever be necessary again to mobilize the man power of the country to meet a national emergency. Through these examinations, the physician, if he so desires, can advance the cause of public health in his own community by focusing public attention on the importance of the physical examination as a health-conserving measure, and by emphasizing the value of vaccination in the prevention of disease. The importance attached by the government to these two fundamental methods of maintaining physical fitness will, if supported by the local physicians, aid in fostering in the public mind a true conception of good health.

Under the present law, no funds are available out of which physicians can be paid for rendering to the government this most valuable service. However, the physician, by the very nature of his profession, assumes certain patriotic duties, and by making the preliminary physical examination of applicants for training he is, in this manner, enabled to participate in the defense of his country, to do his share in furthering the best interests of his community and of the nation, and to prepare himself partially for the duties that would be required of him in a national emergency.

If the preliminary physical examination is to be of value, and serve the purposes for which it is intended, it must be conscientious, and intelligently conducted. The applicant who is passed as physically fit at the preliminary examination is transported at government expense to a training camp, where he is given a final physical examination before being definitely accepted for training. The final physical examination is thorough; and, should it reveal the presence of disqualifying defects, the applicant is returned to his home, and his return transportation must also be paid for by the government. The results of the final physical examination at the opening of the camps in 1922 indicate all too plainly that a few of the physicians who performed the preliminary examination of the applicants did not fully realize the necessity of making a thorough physical survey. In all, 23,330 applicants were passed as physically qualified at the preliminary examination and were sent to camps for training. On their arrival there, the final physical examination showed that 957, or 4.1 per cent., of these men were physically unfit for service. Although in each instance the examining physician had certified that the applicant did not possess disqualifying defects, nevertheless, fully 75 per cent. of the physical abnormalities found during the examination at camp were of such a nature that they should have been easily detected.

CAUSES OF REJECTION

Table 1 gives the common causes of rejection at camp and the relative frequency of their occurrence.

TABLE 1.—*Disqualifying Defects Found Among 23,330 Applicants for Training at Twenty-Eight Citizens' Military Training Camps in 1922*

Defects Causing Rejection	Number	Per Cent. of Total Number
Defective vision	131	13.7
Hernia	123	12.8
Organic heart lesions	66	6.9
Underweight	66	6.9
Pes planus	60	6.3
Venereal disease	49	5.1
Otitis media	34	3.6
Deficient mentality	24	2.5
Scabies	23	2.4
Ankylosis	18	1.8
Other defects	364	38.1
Total	957	100.00

During 1922, the average cost of transporting an applicant from his home to the camp and return was $25; therefore, the rejection of 957 men caused a money loss to the government of approximately $24,000. The expense of transporting the applicant to the camp and back again to his home is a matter of considerable moment, since the funds available for all expenditures connected with training in these camps are limited and must be disbursed with care. Also, when a physically defective individual is allowed to pass the preliminary physical examination and proceed to camp, not only does the government lose the money expended for his travel expenses, but the applicant is subjected to the disappointment, chagrin and inconveniences that must necessarily follow his rejection at camp. Nor can the rejected man be replaced by a physically fit applicant, as the money appropriated for his transportation has been spent, and the training schedule of the camp is by that time well under way.

Defective vision and hernia proved to be the most frequent causes for rejection. Such conditions are, as a rule, easily diagnosed, and should seldom pass unnoticed at the preliminary physical examination. Their detection in men of this age is also of great importance because of their tendency to impair the future success of the man in civilian pursuits, and the ease with which they can in many instances be partially or wholly removed. The majority of the other disqualifying defects were likewise found to be susceptible of ready diagnosis, and to consist of types that were amenable to remedial measures.

The available records indicate that a few examining physicians did not appreciate the necessity for exercising care in making these examinations. Some of the applicants asserted that they had been certified as physically qualified by a physician without any physical examination being made. When a physician does not desire to conduct a thorough physical examination, he should, in justice to himself, to the applicant, and to the

government, refuse to sign the certificate stating that the applicant is physically fit for military service.

DEFECTS THAT DID NOT DISQUALIFY

It is believed that the physical requirements for admission to a Citizens' Military Training Camp are just and not unduly high. Physically defective men are acceptable when their defects are minor in character and cannot reasonably be expected to impair their future usefulness as soldiers. Among the 22,373 men who were finally accepted for training in 1922, there were found 11,109 defects, none of which were considered to be disqualifying in character. The types of such defects and their distribution is shown in Table 2.

TABLE 2.—*Nondisqualifying Defects Found Among 22,373 Trainees in Twenty-Eight Citizens' Military Training Camps in 1922*

Defects	Number	Per Cent. of Total Number
Pes planus	2,427	21.85
Defective vision	1,643	14.79
Varicocele	1,032	9.23
Underweight	953	8.58
Ancylostomiasis	463	4.16
Defective physical development	248	2.23
Deviation nasal septum	191	1.72
Tachycardia	96	0.86
Cardiac murmurs not organic	76	0.68
Curvature of spine	58	0.52
Atrophy of testicle	44	0.40
Cryptorchidism	44	0.40
Cicatrix	41	0.37
Hydrocele	40	0.36
Hallux valgus	38	0.34
Scoliosis	37	0.33
Ingrowing nail	35	0.32
Defective hearing	19	0.17
Mitral regurgitation	10	0.09
Other defects	3,614	32.53
Total	11,109	100.00

It will be noted that, as was the case with the disqualifying defects, the greater proportion of the nondisqualifying defects were susceptible of improvement or cure by proper remedial treatment. In view of this, whenever a physical abnormality, whether disqualifying or not, was diagnosed by the examining officers at the camp, the applicant was so informed; and, if treatment was indicated, he was urged to consult his physician after he returned to his home. As an additional precaution, the parents of the applicant were, when practicable, communicated with by letter and informed of the presence and nature of the defect in order that corrective measures might be instituted by the family or other local physician.

IMPORTANCE OF CAMPS AS HEALTH MEASURE

There can be no doubt that the physical examinations, the immunizations to disease, the emphasis laid on the desirability of obtaining treatment for many of the minor physical abnormalities, and the instruction in hygiene received at the training camp will serve to render the Citizens' Military Training Camp policy a public health measure of national importance, not only by reason of its direct effect on the health of the trainee, but also through its educational value to the population of the country as whole. During the last two years, civilian physicians throughout the country have ungrudgingly given their time and skill to the furtherance of this work, and the nation's thanks are due them for this assistance, as without it progress would be impossible of attainment. It is confidently expected that their continued cooperation will be forthcoming not only during the year of 1923 but for the years to come.

ETHYLENE AS A GAS ANESTHETIC

PRELIMINARY COMMUNICATION *

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AND
J. B. CARTER, B.S., M.S.
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In our first communication [1] we published results showing that ethylene gas in proper concentration and admixture with oxygen possessed marked analgesic and anesthetic properties when administered to the usual laboratory animals. We likewise published results showing that man was as susceptible to its influence as the laboratory animals. On the subjective side it was readily established that analgesia and surgical anesthesia are induced very rapidly "without any sense of asphyxia, but, on the contrary, with a sense of well-being and comfort"; and that, on recovery, which is very rapid, many volunteers experienced only a very temporary nausea, others experiencing no ill effects whatsoever, except for a slight and temporary sense of weakness even under conditions which are known to favor untoward effects.

These preliminary experiments were performed on normal, healthy men. Further extension of the work demanded actual operative work in a hospital and on patients requiring surgical interference; for we had gone as far as it was possible to go in a physiologic laboratory.

We therefore arranged for a further demonstration on ourselves of the anesthetic properties of a suitable ethylene-oxygen mixture before a group of surgeons, physicians and professional anesthetists, Dr. Carl Dragstedt administering the gas.[2] Within several days after this demonstration (March 14, 1923), surgical work with its use was begun at the Presbyterian Hospital, Chicago. All precautions were taken to give the gas a fair but adequate trial. After it had been used in simple and uncomplicated cases with gratifying results, more extensive and prolonged operations were undertaken with similar success. Impressed with its many desirable properties, other staff surgeons at the hospital began to use it. From March 14 to April 26, 106 operations were performed.

CLINICAL ASPECT OF THE WORK

We offer a brief analysis of the clinical aspect of the work in the form of a short report, which we recognize as quite superficial and incomplete.

Sex.—Of the 106 patients operated on, forty-two were males and sixty-four were females.

Age.—The average age of the patients was 39.8 years. The youngest patient was a boy, aged 10; the oldest, a man, aged 64.

Nature of Operations.—We have grouped the operations as occurring on the head, thorax, abdomen, perineum or extremities. In addition, ethylene has had some use in obstetrics. This is a highly arbitrary system of grouping, and not above criticism. It allows, however, of a rapid enumeration of the various operations that have been performed:

* Read before the Chicago Institute of Medicine, April 27, 1923.
* From the Hull Physiological Laboratory, University of Chicago, and the Presbyterian Hospital.

1. Luckhardt, A. B., and Carter, J. B.: The Physiologic Effects of Ethylene, a New Gas Anesthetic, J. A. M. A. 80:765 (March 17) 1923.

2. There were present, at this demonstration, Drs. Lester R. Dragstedt, A. D. Bevan, Dean Lewis, Gatewood, H. L. Jones, G. Hovnanian, A. E. Kanter, Isabella Herb, Mary Lyons and Frances Haines.

(*a*) Head: Removal of a wen; excision of a carbuncle; abscess of the jaw; mastoid operation; removal of tonsils; osteomyelitis of jaw with removal of sequestrum; opening of abscesses of neck and in axilla; drainage of cervical abscess.

(*b*) Thorax: Two excisions of breast tumors; two radical breast removals.

(*c*) Abdomen: Six herniotomies (one double); three exploratory laparotomies; six appendectomies; operation for undescended testicle; a cystostomy; cholecystectomy; two operations for shortening the round ligament of the uterus.

(*d*) Extremities: Reduction of a dislocated shoulder; five operations consisting of the amputation of a toe; operation on fractured and dislocated ankle; manipulation of shoulder for breaking up of adhesions; aspiration of a knee joint; osteomyelitis of tibia; osteomyelitis of femur (three operations); stretching of the sciatic nerve; bilateral amputation of thighs; osteomyelitis of ileum; removal of a sequestrum from the tibia; two operations for bunions, two operations on varicose veins; an astragalectomy; operation on a double fracture of the leg and dislocation at ankle of six months' duration.

(*e*) Obstetrics: Ethylene was used in four normal deliveries with very satisfactory results. It was found better than nitrous oxid used the preceding hour or hours. An 80 per cent. concentration was employed. The color of the patient remained good. The fetal heart tones remained unchanged.

(*f*) Perineum: Dilatation of cervix and curettage (nine); two radium needles into cervix uteri; pelvic examination; double rectal fistula; two prostatectomies; two operations for removal of hemorrhoids; cystoscopy; five operations in which radium needles were introduced into the prostate; ureteral catheterization; anal fissure; vaginal cesarean section; perineal incision prior to delivery and subsequent repair; insertion of Voorhees bag; amputation of cervix uteri; perineorrhaphy; manual exploration of uterus; incision of pelvic abscess; colpotomy.

Concentration of Ethylene Used.—The average concentration of ethylene used in 101 operations (in which a record was kept) was 81.9 per cent., the other gas, as with nitrous oxid administration, being oxygen. Individual variation exists as with other anesthetics, regardless of the nature of the operation. Whereas a 77 to 80 per cent. ethylene and a 23 to 20 per cent. oxygen mixture sufficed to render some patients analgesic or even anesthetic, others were not in a state of surgical anesthesia unless the ethylene was given in a concentration of 90 or even 95 per cent. The latter patients were exceptionally resistant, and were few in number. Otherwise the percentage of ethylene necessary for the 101 patients as a whole would not average down to 81.9 per cent. ethylene. Such a concentration allows, as will be noted, of the simultaneous administration of about 18 per cent. oxygen.

Duration of the Operations.—The length of the operations varied considerably—from a few minutes to one hour and fifty minutes. The average length of ninety-two operations was 27.8 minutes.

Recovery from the Anesthetic.—In the entire series of ninety-two cases in which ethylene was the sole anesthetic used, we find no record that the patient had not recovered his senses within five minutes after discontinuance of the anesthetic. Following the shorter operations, recovery was almost immediate. But even after very long operations the patients were usually quite rational within three minutes after ceasing to breathe the ethylene-oxygen mixture.

Nausea and Vomiting.—Three of the ninety-two patients felt nauseated, and fourteen vomited. The retching or vomiting was of short duration, occurring when the patient was but lightly anesthetized or for a very brief time immediately on recovery from the anesthetic. It consisted very often of a few retching movements, and was never serious.

Evaluation by the Surgeon.—Nineteen surgeons operating with ethylene as the anesthetic agent have made this preliminary study possible.[3] Their verdict was not only that the gas was "good" or "very satisfactory," but that it produced in a given type of operation or manipulation a decidedly better relaxation than was possible with nitrous oxid. Upper or lower respiratory infections were not brought on by its administration, nor were such, when existant at the time of operation, made worse.

Opinion of the Anesthetists.—The administration of ethylene was almost exclusively in the hands of Drs. Isabella Herb and Mary Lyons. Whether used to induce anesthesia in an ethylene-ether sequence (fourteen cases) or as the sole anesthetic agent, these well known anesthetists felt very well satisfied with it, as the following quotations, culled from the protocols of various patients will prove:

Unable to hold under nitrous oxid in similar operation. Better relaxation than with nitrous oxid. (Herb.)
Sequence easier than with nitrous oxid. (Herb.)
Much better than nitrous oxid. Patient given nitrous oxid several times before—always unsatisfactory. (Herb.)
Have given him six anesthesias before, always with excitement. None this time. (Herb.)
Quieter induction. (Lyons.)
Very satisfactory. (Lyons.)
Patient with hemoglobin of 35 per cent. This type does poorly under nitrous oxid. Used ethylene with complete relaxation. (Lyons).
Less bleeding—no cyanosis. (Lyons.)
More satisfactory than nitrous oxid. (Herb.)
Perfect relaxation. Excellent color. (Gaston.)

Opinion of the Patients.—Many volunteers for the preliminary work and some patients stated that ethylene was the best anesthetic they had ever had.

In our first publication we mentioned the possible advantages of ethylene over nitrous oxid. These advantages were surmises based solely on experiments with normal animals and healthy men. Each of these predictions was verified when put to the test in the clinic. For purposes of emphasis and as a partial summary, we repeat them here:

1. Anesthesia may be maintained:
   (*a*) In the absence of all signs of asphyxia.
   (*b*) In the absence of effects on blood pressure.
   (*c*) In the absence of dyspnea.
   (*d*) With complete muscular relaxation.
2. It may be used in obstetrics, a state of complete analgesia being possible at a concentration of 80 per cent. ethylene.
3. There is rapid recovery after long continued administration without evidence of after-effects.

3. They are, with the number of operations performed by each: Dr. Dean Lewis, twenty-nine; Dr. A. D. Bevan, sixteen; Dr. N. S. Heaney, twelve; Dr. D. B. Phemister, eleven; Dr. H. L. Kretschmer, eleven; Dr. G. L. McWhorter, three; Dr. E. D. Allen, three; Dr. Gallagher, three; Dr. Montgomery, four; Dr. Gatewood, one; Dr. C. B. Davis, two; Dr. Edward Miller, two; Dr. F. B. Moorehead, two; Dr. Edwin McGinnis, one; Dr. H. H. Everett, one; Dr. Kellogg Speed, one; Dr. Carey Culbertson, one; Dr. G. E. Shambaugh, one, and Dr. Vernon David, two.

Failures.—We frankly admit, however, two failures. In one the failure was complete, a concentration of from 90 to 95 per cent. producing in this young man marked cyanosis without the slightest relaxation. The other patient was rendered analgesic by a 95 per cent. ethylene-oxygen mixture, but was never profoundly anesthetized. At a subsequent operation under apparently identical conditions (except for the nature of the operation), surgical anesthesia was induced, together with complete muscular relaxation.

Such refractory cases are known to occur occasionally with nitrous oxid. In the past, no attempts have been made to determine why some patients are refractory to nitrous oxid, or even to ether anesthesia. It seems to us that a group of such cases should receive a most careful study by all available means with the hope that such a study might possibly furnish evidence as to the mechanism of anesthesia.

COMMENT

On the basis of this clinical study, comprising a series of 106 patients with and without cardiovascular, renal and other complications, we can state briefly that ethylene-oxygen anesthesia is very satisfactory. Since it is possible to administer with the ethylene, on the average, as much as from 16 to 18 per cent. oxygen, asphyxia and its consequences are avoided, and cyanosis, so commonly seen with nitrous oxid, is conspicuously absent. Analgesia comes on surprisingly early. Considering, furthermore, that the relaxation is more complete than with nitrous oxid, we find that ethylene compares most favorably with ether. In fact, the impression is gaining ground that ethylene has some of the advantages of ether, without many of its troublesome after-effects. The very prompt recovery points to a rapid elimination of the ethylene, and may necessitate the administration of morphin immmediately on the conclusion of an operation.

CONCLUSION

We append a note of warning to those who contemplate using ethylene in the clinic. Ethylene gas is inflammable. It forms, moreover, with air (or oxygen) an explosive mixture in a concentration of four volumes of ethylene with ninety-six volumes of air. Until further work, now in progress, has been performed on its explosive properties, we warn surgeons and anesthetists not to use the gas in the presence of an electric spark, the actual cautery or a free flame.

Satisfied that, under proper conditions of administration (soon to be published by Drs. Herb and Lyons), ethylene gas produces in most individuals not only analgesia but also a state of surgical anesthesia incomparably better than with nitrous oxid for any kind of surgical work, we offer the gas to the medical profession for further trial in the clinic.

We feel that others who use it will be impressed with the rapidity and ease with which anesthesia is induced, with the slow and regular respiration, with the dryness and warmth of the skin, with the generally pink coloration of the skin and viscera, with the slowness and regularity of the pulse, with the absence of salivation, with the absence of blood pressure changes during or following considerable trauma and manipulation, with the complete muscular relaxation, and, finally, with the remarkably rapid recovery without serious sequelae after even a prolonged anesthetization.

In the meantime, we are continuing our investigations in the laboratory and clinic on various aspects which are of immediate importance.

ABORTIVE TYPE OF TUBERCULOUS HIP-JOINT DISEASE

REPORT OF TWO CASES

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Tuberculosis of the hip-joint is a disease entity with well-established diagnostic features in etiology, history, symptoms and signs, as well as definite principles of treatment. It is a condition marked by a long-continued, progressive course, unless halted by proper treatment, which of necessity requires a long time.

Abortive types of tuberculous hip-joint disease are unusual, and there is considerable question whether or not abortive types occur. Theoretically, it might seem very possible for a tuberculous infection in the hip-joint, though well started, to become overwhelmed by body resistance, in an early stage, and be cured. The possibility of an immunity to the infection being established, however, is much less in a joint infection than in a lung infection, for example, because of the comparatively poor blood supply to the joint.

In the few articles found in the literature that discuss the question, there is practically an agreement that abortive types do not occur. Friedländer [1] describes cases of ephemeral coxitis which apparently are abortive types of tuberculosis, but concludes that these cases cannot be proved to be tuberculous. Again, Friedländer [2] states that he believes one group of cases represents an abortive tuberculosis. Sundt,[3] in a study of thirteen cases of obscure hip affections, whose later histories ruled out a typical tuberculosis, concludes that tuberculosis could be excluded in twelve cases and, though in the thirteenth case it could not be excluded, the condition probably was nontuberculous. Sundt states that while it is impossible to disprove the existence of abortive joint tuberculosis, he doubts whether it ever occurs in the hip. Rogers [4] mentions the case of a man, aged 21, who at operation showed a definitely proved tuberculous synovitis of the hip-joint, with no involvement of bone; this, however, would not necessarily be an abortive type.

Among the conditions that might be considered as abortive tuberculosis of the hip-joint is nontuberculous synovitis, which, judging from a search of available literature, is very rare in the hip-joint. Keen [5] mentions an acute synovitis of the hip in children that might give symptoms of hip-joint tuberculosis. Etiologic factors, such as injury or focal infection, should be fairly clear in a nontuberculous synovitis. Acute arthritis may be eliminated by its usual feverish, acute course, and by the rarity of its location in the hip. Pseudocoxalgia, Perthes' or Legg's disease, should be considered, but can be excluded by the roentgen ray, as a flattening and irregularity of the head of the femur is very constant in this condition. Also the symptoms and findings are typically different from those of tuberculosis. To mention other possible simulants of hip disease, Sundt gives coxa vara, epiphyseolysis coxae, fracture of the neck of the femur, arthritis deformans, osteomyelitis, and hysterical joint.

1. Friedländer: Wien. klin. Wchnschr. **36**: 1022 (June 19) 1913.
2. Friedländer: Koxalgische Attacke im Kindesalter, Wien. klin. Wchnschr. **32**: 811 (Aug. 7) 1919.
3. Sundt, H.: Tubercle **2**: 289 (April) 1921.
4. Rogers, M. H.: J. Bone & Joint Surg. **4**: 679 (Oct.) 1922.
5. Keen, W. W.: Surgery, Philadelphia, W. B. Saunders Company **2**: 325.

The lack of definite roentgen-ray findings in an early tuberculosis of the hip-joint does not preclude the diagnosis; for though, often, the tuberculous involvement is first located in adjacent bone, a primary tuberculous synovitis is recognized. Murphy [6] states that in infants primary tuberculosis develops in the synovia.

The occurrence of two very similar cases of clinically definite tuberculosis of the hip-joint, both of which cleared up with practically no treatment and in a comparatively short time, brought up the question of an abortive type, and I wish to record the findings for what bearing they may have on the subject.

REPORT OF CASES

CASE 1.—M. F., a boy, aged 2½ years, whose past history was uneventful and whose family history was not pertinent examined, Oct. 23, 1920, complained of lameness of the right leg and pain above the right knee. The onset was two days previously, when he awakened and cried out with pain in the knee, and it was found that he could not stand on the right leg. The child had been healthy and vigorous, but, on question, the father recalled that, for a month before, the boy had often asked to be carried after walking a few blocks, and had said that his knee hurt him. There was no history of injury, but the child cried out often in his sleep.

Pain was localized in front of and just above the knee joint. The right leg was held with the knee flexed and the foot everted. The posterior gluteal sulcus was obliterated on the right. Motions of the hip were limited, the muscles being spastic; measurement showed no shortening. The temperature was 98.6 at 10 a. m. The roentgen-ray report was negative. The Pirquet skin test was markedly positive in twenty-four hours.

A diagnosis of tuberculosis of the hip-joint was made, and hospitalization for treatment by immobilization advised. The parents wished to wait a few weeks and, against the recommendation for immediate treatment, rest and hygienic measures were carried out. One week later, the condition was unchanged; the temperature had been up to 99 or more each evening. Three weeks after the examination, the child was able to walk, had but little pain, and limped slightly. In view of the improvement, it was decided to wait, and six weeks after the onset, recovery was complete, symptomatically and as to examination. A recent report states the child has remained well.

CASE 2.—M. L., aged 3 years, examined, Sept. 26, 1921, whose past history was negative, as was the family history, had complained of pain in the knee, beginning four days previously, and when walking, he limped and dragged the right foot. He had night cries, but there was no injury. Examination of the right hip showed a picture similar to that in Case 1. There was spasticity of the muscles, limitation of movements, and obliteration of the posterior gluteal fold, and the leg was held in flexion. Roentgen-ray examination was negative. The Pirquet test was positive in twenty-four hours.

In view of the course in Case 1, rest and hygienic measures were advised, with a request for a report each week. After two weeks there was slight improvement, and six weeks after the onset, there was complete relief of symptoms, and examination was negative. A report in January, 1923, shows the child free from trouble. During the October following the examination, two cows of the herd from which the family obtained milk were condemned for tuberculosis.

COMMENT AND CONCLUSION

In these cases we have, in favor of a diagnosis of tuberculosis, (1) etiologic factor; (2) typical history and symptomatology; (3) typical objective signs; (4) positive Pirquet tests (in children of these ages, the positive skin test should have considerable weight), (5) lack of any other diagnosis except acute synovitis, the occurrence of which is unusual, and for which we have no etiology.

Against the diagnosis of tuberculous joint disease, we have (1) the lack of bacteriologic proof of the organism, and (2) the course and outcome, for the recovery of a so-called tuberculous hip-joint in a few weeks is a strong argument against the diagnosis.

Though not definitely proved, it would seem that there is an abortive type of hip-joint tuberculosis.

6. Murphy: Clinics, 5: 103.

THE DIFFERENTIAL DIAGNOSIS OF NEURITIS AND CONDITIONS SIMULATING IT

WITH ESPECIAL REFERENCE TO POSTINFLUENZAL MULTIPLE NEURITIS AND ATAXIA *

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Perhaps no diagnosis is made with less foundation in fact and made so loosely as the diagnosis of neuritis, a term that is usually applied by the physician and the layman to connote a variety of conditions, the chief symptom of which is pain. If neuritis is of the mixed variety, that is, both motor and sensory, or if of the sensory type, it will be associated with pain; however, the two commonest types of neuritis seen in civil practice are instances of motor neuritis and hence are unassociated with pain. These two conditions are involvement of the seventh nerve and of the musculospiral, and are usually due, in the first instance, to exposure to a draft, and in the second, to pressure. A mononeuritis involving a mixed nerve and hence a condition which gives rise to pain, is extremely uncommon, the ulnar, median and sciatic nerves being only rarely so affected.

If a neuritis is present, producing pain, it must necessarily be of a sensory nerve, or of a nerve that contains both motor and sensory fibers. Such a disease should have as its chief symptoms pain along the course of the nerve, tenderness on pressure, weakness in the muscles supplied, a diminution of all forms of sensation in the distal parts of the nerve involved, depression or loss of the deep reflexes, and, if the condition is of any severity at all, muscular atrophy with a change in the electrical reaction. If the nerve involved is only a motor nerve, pain will be absent, as in the case of an ordinary Bell's palsy or of a musculospiral paralysis.

Granting that the foregoing remarks are true, what are the conditions which, when present, are so frequently thought to be neuritis, when, as a matter of fact, no such condition primarily exists? Given a patient with pain in any part of the body as his chief complaint, a methodical and systematic order of investigation should be instituted in every case in order to arrive at a proper diagnosis. I believe the fact is frequently overlooked that the pain complained of may be due to irritation of a nerve trunk or root much higher up than the site of the patient's pain. To paraphrase a line in an old poem, "the doctor properly to unravel the pain should begin at the cord," and thence work toward the periphery. The pain pro-

* From the Neurological Department of the University of Pennsylvania School of Medicine.
* Read at the Seventh Annual Clinical Session of the American Congress on Internal Medicine, Philadelphia, April 4, 1923.

duced by disease of or irritation of a posterior root is variously described as sharp, shooting, cutting or burning, and is often increased by sneezing, coughing or jarring. The fact that a root pain is often increased by sneezing or coughing frequently leads to an incorrect diagnosis of pleurisy (which may also exist) in the patient suffering from involvement of a posterior root in the dorsal region.

The chief conditions that irritate or destroy a posterior root are, in order of their frequency, syphilis, disease of the vertebrae, herpes zoster, spinal tumor and tumors, including aneurysms, growing outside the spinal canal.

Syphilis causes involvement of a posterior root by the production of a low grade of meningitis, such as is seen in tabes dorsalis and in meningomyelitis. Diseases of the vertebrae, of which ostearthritis, Pott's disease and carcinoma are the chief offenders, cut down the size of the vertebral foramina and also impinge directly on the roots. Herpes zoster is an involvement of the posterior root ganglion and, according to some investigators, is the analogue of acute anterior poliomyelitis. The pain of herpes zoster, as is well known, may persist for months after the eruption has disappeared. Tumors of the cord, which are usually benign, frequently grow from a posterior root or involve it by pressure. Tumors outside the vertebral canal involve the roots by pressure.

As a rule, a posterior root neuritis is not associated with tenderness at the site to which the pain is referred, although such a condition may exist. Whenever the disease of the root is of any severity, the so-called anesthesia dolorosa is present, in which case a paradoxical situation is seen; viz., the patient, although suffering from an intense pain in an area, is unable to differentiate the point from the head of a pin in this painful zone. It is needless to say that very often the conditions mentioned above will have other signs and symptoms than pain and a disturbance of sensation.

Posterior root disease may produce pain in any part of the body, yet how often does the examining physician who is called to treat a pain in the chest, abdomen or in any one of the four extremities think of the spinal cord and its posterior roots as the possible origin of the pain? I will not venture a reply.

After disease of the vertebrae, the cord and its coverings have been eliminated, one should try to visualize the course of the nerves, an involvement of which may give rise to pain. In the case of pain in or around the chest and the abdomen, a careful effort should be made to find the organ at fault, if the conditions mentioned above have been ruled out.

Pain in an extremity is only on the rarest occasion due to a neuritis; for ulnar neuritis, median neuritis and real sciatica are extremely uncommon conditions which should never be diagnosed until all the evidence in the case has been carefully sifted. The chief causes of pain in an extremity, in addition to posterior root involvement, are arthritis and disease of the vessels. I believe that the condition most frequently called neuritis in an extremity is in reality arthritis, the joint disease usually striking the shoulder or the hip. In addition to the changes as shown by the roentgen ray and the absence of any disturbance of sensation, joint disease produces an atrophy of the muscles that move the joint, especially the extensors, the atrophy being often rapidly produced and usually associated with increased reflexes in contradistinction to the lost reflexes that occur in neuritis. This type of atrophy is not associated with fibrillary tremors or with changes in the electrical reactions.

Disease of the vessels as a cause of pain in the extremities is usually easily recognized, and in this condition a neuritis may come on because of interference with the nutrition of the nerves.

Multiple neuritis may be of the sensory, motor or mixed types, the mixed variety being the commonest and due, as a rule, to alcohol. The signs or neuritis as outlined above will be present over many nerves instead of over one. Occasionally, any one of the acute infections may produce a multiple neuritis which may be in no way different from that produced by alcohol, but which, occasionally, is of an unusual type resembling in some of its manifestations tabes dorsalis and frequently referred to as pseudotabes. The sensory loss in this type of multiple neuritis may simulate closely those seen in the cord changes occurring in the course of severe anemia. In 1919, I called attention to this condition occurring in three cases of postdiphtheric ataxia.

Through the kindness of Dr. Spiller, I present two instances of postinfluenzal multiple neuritis and ataxia from the University Hospital.

REPORT OF CASES

CASE 1.—*History.*—A white man, aged 24, unmarried, referred to the hospital, March 15, 1923, by Dr. J. W. Mitchell of Lewistown, Pa., complained chiefly of numbness and loss of power in the legs and arms. He had never had scarlet fever, diphtheria or pneumonia. He had a chancre in May, 1921, and was treated with mercury and six injections of arsphenamin. He was also given three injections of arsphenamin three weeks before admission, because his present trouble was thought to be tabes. He was well until three months before admission, when he had an attack of the grip, with cough and fever, the whole thing lasting about four weeks. Shortly after this he noticed a tingling sensation in his tongue, a condition which persisted ten days. A few days later he noticed that he staggered when walking. This difficulty in locomotion gradually progressed, and about two weeks before admission it became so severe that he could not walk, and had to remain in bed. At the time of examination, his legs were so weak that he could not bear his body weight on them. The upper extremities had been involved in the same manner as the legs, and he had very little use of his hands and arms. He had had no pain, and he had never been completely paralyzed in any muscle or group of muscles. He had had no eye symptoms and no relaxation of the sphincters.

Physical Examination.—The man was well developed and well nourished, was confined to his bed because he was unable to walk or stand, and sat up only with great difficulty. The pupils were equal and regular, and reacted somewhat sluggishly to light, but better in accommodation. The cranial nerves were normal, and hemianopia, exophthalmos and nystagmus were absent. The upper and lower extremities were well developed, and no atrophy was seen. All of the muscles of the upper and lower extremities were extremely weak. The biceps, triceps, patellar and Achilles reflexes were absent on both sides. Plantar stimulation produced flexion. Pain, touch, heat and cold were diminished in the distal portions of the upper and lower extremities. The sense of position and the sense of vibration were greatly impaired in all four extremities, and stereognostic perception was lost in both hands. Deep pressure was markedly involved in the hands and feet. The nerve trunks were tender on deep pressure. The electrical reactions showed normal faradic response and slight diminution of galvanic excitability.

The blood, spinal fluid, urine and gastric contents were normal.

CASE 2.—*History.*—A white man, aged 40, referred to the hospital by Dr. J. B. Nutt of Williamsport, Pa., March 16, 1923, had never had scarlet fever, diphtheria, rheumatism or tonsillitis. He was married and had six children, all whom were living and well. He stated he had never had venereal disease, and that he did not use alcohol. The patient was perfectly well until the latter part of December, 1922, when he contracted influenza, associated with high fever, headache and pains in the extremities, symptoms that persisted for three weeks. A few days later he noticed a tingling in the ends of his fingers and a marked defect in vision for near objects. After a few days' rest, he felt better and returned to his work for several days. The latter part of January, his legs suddenly became too weak to bear his weight, and his hands became weak and numb. He went to bed for three days, improved, and tried to walk, a feat that he did with a great deal of difficulty and staggering. His vision became normal after the first of February. The weakness of his four extremities continued, and gradually involved them to a marked degree. Three weeks before he was admitted, he again collapsed when walking. At the time of examination, he could walk with support. He had lost about 20 pounds (9 kg.) since the onset of his illness. He had had no pain or sphincter disturbance.

Physicial Examination.—All of the muscles of the extremities were extremely weak, but no atrophy was made out. He could walk for a short distance, showing an ataxic gait. Romberg's sign was present. The biceps, triceps, patellar and Achilles reflexes were lost. Plantar stimulation produced flexion on both sides. Touch, pain, heat and cold were slightly involved in the distal portions of the extremities. The sense of position and the sense of vibration were lost in the hands and feet. Deep pressure sense was normal. Intense pain was produced when the nerves of the extremities were palpated. The blood and urine were normal in every respect. The electrical reactions sowed no changes.

COMMENT

These two cases represent an unusual form of multiple neuritis in which ataxia and a loss of deep sensibility are prominent physical findings. In the first case, a diagnosis of tabes dorsalis had been made, although this diagnosis is certainly untenable because of the rapidity of the onset, the absence of shooting pains, sphincter disturbance, and eye signs, the presence of normal reactions of the blood and spinal fluid, and because of the marked weakness which is not a symptom of tabes dorsalis. The history of the onset coming closely after an attack of influenza makes a diagnosis of postinfluenzal multiple neuritis and ataxia a likely one. The second case, similar in a great many respects to the first, also developed on the heels of an attack of influenza and showed much the same clinical picture.

It is extremely unusual that in a case of multiple neuritis the sense of position and the sense of vibration should be lost with relatively little involvement of the other forms of sensation. This naturally suggests the possibility of posterior columns of the cord being involved, as well as the peripheral nerves. The resemblance of this sensory loss to that occurring in the cord changes seen in the course of severe anemia is very striking, but the absence of pyramidal tract symptoms and the presence of a normal blood and gastric contents rule out such a possibility.

The diagnosis made in these two cases, therefore, is postinfluenzal multiple neuritis, with a possibility of involvement of the posterior columns of the cord as well as of the peripheral nerves. Both patients are rapidly improving and each should make a complete recovery.

1909 Chestnut Street.

THE ADMINISTRATION OF HYPERTONIC SALT SOLUTIONS FOR THE RELIEF OF INTRACRANIAL PRESSURE*

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The use of magnesium sulphate to assist in controlling intracranial tension was first introduced into this clinic a little more than two years ago. During this time, certain observations as to its effects and mode of administration have been recorded, and the conditions in which its use is beneficial will be noted. It was adopted by the neurosurgical service as a means of reducing intracranial pressure and volume, following my observation that infants showed a marked retraction of the fontanels after its use, because of the dehydration that it produces throughout the cerebral system.

At the time a method brought forward by Cushing and Foley[1] of the intravenous injection of 35 per cent. sodium chlorid solution was in use, but since that time this method has been replaced in the majority of cases by the easier and more satisfactory administration of magnesium sulphate solution, either by rectum or by mouth. The intravenous method of sodium chlorid administration is still found to be of great value in cases in which rapid reduction of intracranial pressure and volume is necessary on the operating table.

Magnesium sulphate has been found of decided value in the preoperative study of cases presenting intracranial pressure. The patients have been relieved of headache, vomiting, choke disk, medullary depression and coma. Their symptoms and responses could be more carefully observed when the intracranial tension was relieved, and they could be kept in comfort for several days previous to operation. Dangerous medullary symptoms may be relieved long enough to permit time for the proper localization of a lesion before an operation is undertaken (Chart 1). The use of magnesium sulphate as a routine measure before operation in cases of suspected intracranial tension has permitted exposure of the cortex otherwise unsafe in the presence of decided pressure.

In the postoperative treatment of the so-called medullary edema, magnesium sulphate had been found indispensable. Cases in which stupor supervenes following intracranial exploration, with marked fall in respiration and pulse, rapid dehydration will check the pressure on the basal centers and allow a return of the respiration and pulse to normal (Chart 2).

In cases of traumatic injuries to the brain in which fracture of the skull or concussion is associated with marked stupor, respiratory and cardiac depression due to intracranial pressure and "medullary edema," dehydration by magnesium sulphate is followed by marked relief of these symptoms (Chart 3).

MODE OF ADMINISTRATION

Magnesium sulphate is best given by rectum. We have found 3 ounces (90 gm.) of the crystals dissolved in 6 (175 c.c.) ounces of warm water and introduced by means of a soft rubber catheter and syringe the most effective and the simplest method. The effects become apparent in about an hour. The patient is

* Read before the Philadelphia Neurological Society, Jan. 26, 1923.
* From the neurosurgical clinic of Dr. Charles H. Frazier, University Hospital.

1. Cushing, Harvey, and Foley, F. E. B.: Proc. Soc. Exper. Biol. & Med. **17**: 217, 1920.

saved the distress of active catharsis, and, in cases of vomiting, the administration of the salt by mouth may increase emesis, and the value of the drug will then be lost to the patient.

When given by mouth, 1½ ounces (45 gm.) of the crystals in 8 ounces (235 c.c.) of water brings relief a little sooner but is not without its disadvantages from the standpoint of the patient. This dose may be repeated every fourth hour until the desired dehydration is obtained.

bowel for the reduction of intracranial pressure. Foley and Putnam [3] also confirmed this work, and a clinical application was made of these findings by Haden,[4] Cushing and Foley [1] and Sachs.[5] In a more recent article, Dowman [6] points out his use of magnesium sulphate in cases of intracranial tension, with marked success.

The use of sodium chlorid in solution by mouth (or in 2-gram capsules coated with phenyl salicylate), if given in sufficient quantities to produce dehydration,

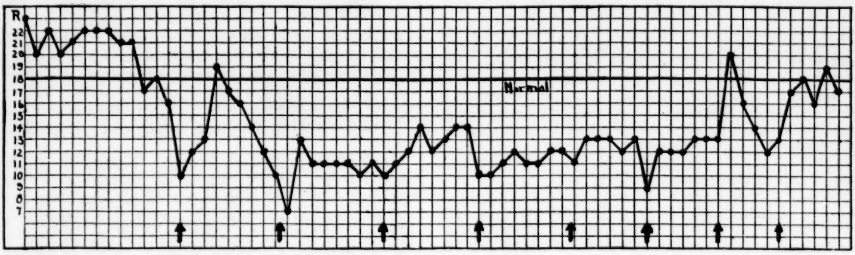

Chart 1 (M. S.).—Respiration of patient admitted with increased intracranial pressure for study and localization of lesion; sudden attack of medullary depression with stupor; patient relieved by administration of magnesium sulphate; safe and satisfactory condition maintained until lesion could be localized and removed: *R*, respiration; arrows, magnesium sulphate.

When given by rectum, no discomfort has been noted, and the accumulated fluid is siphoned off from time to time. The dose may be repeated in four hours and until the desired effect is produced. If more than 6 ounces of fluid is used, the patient may expel the solution, owing to its volume. In cases in which the patient is irritable, a dram (4 c.c.) of camphorated tincture of opium added to the salt solution may be of great benefit in assisting him to retain it. Fluid intake should, of course, be restricted to a minimum.

COMMENT

Weed and McKibbon [2] were the first to show the value of hypertonic sodium chlorid solutions by vein, and sodium sulphate and sodium chlorid by rectum and was found by us to be attended with vomiting and much distress, such as thirst and gastritis, so that this method has given way to the use of magnesium sulphate in this clinic. From a physiologic standpoint, the action of sodium chlorid is due not only to the presence of hypertonic saline solution within the bowel, but also to absorption of salt into the blood stream, the hypertonic solution of blood thus created causing a withdrawal of fluids from tissue spaces and especially the ventricular system. Hypertonic sodium chlorid solu-

2. Weed, L. H., and McKibbon, P. S.: Am. J. Physiol. **48**: 512 (May) 1919.

3. Foley, F. E. B., and Putnam, T. J.: Am. J. Physiol. **53**: 464 (Oct.) 1920.

4. Haden, R. L.: Therapeutic Application of Alteration of Brain Volume by Injection of Glucose, J. A. M. A. **73**: 983 (Sept. 27) 1919.

5. Sachs, Ernest, and Belcher, G. W.: Use of Saturated Salt Solution Intravenously During Intracranial Operations: Preliminary Report, J. A. M. A. **75**: 667 (Sept. 4) 1920.

6. Dowman, C. E.: Management of Head Injuries with Real or Potential Brain Damage, J. A. M. A. **79**: 2212 (Dec. 30) 1922.

TABLE 1.—*Results of Giving Magnesium Sulphate by Mouth and by Rectum*

Case	Method	Amount, Ounces	Effect	Lesion
1	Rectal	2½ every other day	Respirations restored to normal; relief of headache and vomiting; great relief of tension; vision improved; kept comfortable for 10 days until subtemporal decompression	Tumor ?, unverified
2	Mouth and rectal	1 every 4th day	Headache relieved; vomiting relieved; postoperative respiratory drop; restored; palliative	Pituitary syphilis
3	Mouth	1 in the a. m.	Entire relief of intense headaches, vomiting, and became less irritable, so examination could be made	Cerebellar tumor
4	Rectal	3	Respirations raised from 12 to normal; headache and stupor relieved	Brain abscess
5	Mouth	1 every 4th hr.	Relief of headache, vomiting and dimness of vision; palliative until operation	Cerebellar tumor
6	Mouth	1½ every 4th hr.	Some relief of symptoms; toward the last there was no relief from headache and marked retraction of neck; cerebellar tumor had extended down the neck through an old decompression opening; tumor as large as a grapefruit found	Cerebellar tumor
7	Mouth	1 in a. m.	Relief of headache, vision better, vomiting ceased	Brain abscess; lateral sinus thrombosis
8	Mouth and rectal	3; 1 by mouth	Respirations returned from 9 to 18; some improvement of stupor and mental condition; examination made possible	Temporal lobe tumor
9	Mouth	1 every 4th hr.	Relief of headache and vomiting	Pituitary
10	Mouth	1	Relief of headache and vomiting	Frontal lobe tumor
11	Mouth	1½ every 4th hr.	Relief of headache and vomiting	Glioma, frontal
12	Rectal	1 every 4th hr.	Respirations restored from 14 to normal	Parietal lobe tumor
13	Mouth	1½ every 4th hr.	Respiration restored to normal; headache and vomiting improved; vision improved; died, sudden respiratory failure after 3 days	? Pituitary
14	Mouth	1½ every 4th hr.	Respiration restored to normal; vomiting, headache and restlessness relieved; sleep induced	Temporal lobe tumor
15	Mouth and rectal	3, 1½	Edema of lungs cleared up.....	Trans. myelitis, 5th cervical segment
16	Mouth	1½ q. s.	Headache such that patient rolled about on the floor; relieved completely	Subcortical glioma

tion is dialyzable, and in the increased chlorid content of the blood leads to a temporary secondary tissue retention with a rapid return of pressure symptoms some hours after its administration. Magnesium sulphate, on the other hand, is nondialyzable, and produces its action by a rapid dehydration of blood plasma fluids solely through the intestinal walls, with a compensatory absorption on the part of the blood from the fluid spaces, especially the ventricular system, in order to maintain normal blood volume.

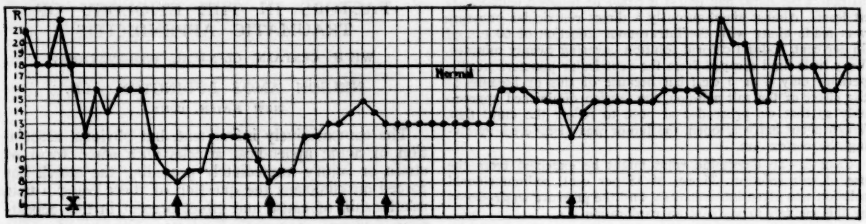

Chart 2 (I. R. S.).—Rapid postoperative fall in respiratory rate due to medullary pressure, relieved by magnesium sulphate, with eventual recovery: *R*, respiration; *X*, exploratory craniotomy; arrows, magnesium sulphate.

No ill effects from its repeated use have been noted by us.

A wider application of our method for the administration of magnesium sulphate has been noted by other services of this hospital, and the results so far reported have been very satisfactory. Spiller has found the use of this salt very effective in reducing the papilledema seen in certain forms of encephalitis. In several of his cases, the swelling of the optic disks has been reduced from 5 diopters to less than 2. Thompson has suggested its use in glaucoma, and de Schweinitz and Baer have noted that appreciable reduction of intra-ocular tension has followed its administration. Ravdin was able to control an edema of the glottis following Ludwig's angina in a case in which a tracheotomy seemed imminent. We found it of marked value in clearing up what appeared to be a fatal edema of the lungs appearing a few hours after injury, in a case of traumatic transverse myelitis at the fifth cervical segment. These are merely possibilities for its use whenever active reduction of edema seems necessary. Further investigation along the lines suggested is needed before the exact value of the drug may be determined in other branches.

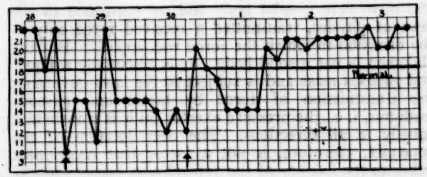

Chart 3 (H. S.).—Respiration after concussion resulting from blow on head; medullary depression relieved by magnesium sulphate with rapid return of respirations to normal: *R*, respiration; arrows, magnesium sulphate.

INTRAVENOUS HYPERTONIC SALT SOLUTION

Of the exploratory craniotomies performed in this clinic in the last two years, 17 per cent. of the patients received an intravenous injection of hypertonic sodium chlorid solution while on the table, in order to facilitate exploration. In all but two cases, pressure was found to be rapidly relieved so that the dural incision could be made without herniation of the cortex. In several cases, at the close of exploration, the administration of the solution while on the table allowed the operator to close the dura safely.

During the early use of this solution, 30 c.c. of a 35 per cent. sodium chlorid solution was used intravenously causing a slight reduction in intracranial tension. Later, when larger amounts of a 15 per cent. solution were used, the reduction of pressure became more marked, and led to the adoption of from 50 to 120 c.c. of 15 per cent. solution, by vein, as that which would yield the best results in the shortest period of time.

TABLE 2.—*Results of Intravenous Injection of Hypertonic Sodium Chlorid Solution*

Case	Size of Ventricle	Type of Tumor	Salt Solution	Results (Cortical Pressure)
1	?	Pituitary, suprasellar	32 c.c. 35%	No change
2	Large	Glioma, cerebellum	30 c.c. 35%	Reduction of intracranial pressure
3	One large, other collapsed	Subcortical glioma	30 c.c. 35%	Very slight reduction of pressure
4	Small	Cortical adenocarcinoma	40 c.c. 35%	Slight reduction of pressure
5	One large, other collapsed	Subcortical glioma	120 c.c. 18%	Marked reduction so dura could be opened
6	Large	Cerebellar tumor ?	140 c.c. 15%	Roused from stupor
7	?	Subcortical tumor	30 c.c. 15%	No effect
8	Large	Subcortical glioma	35 c.c. 15%	Intracranial pressure reduced
9	Small, 5 c.c.	Endothelioma	60 c.c. 15%	Pressure reduced enough for exploration and removal
10	?	Subcortical gliomatous cyst	10 c.c. 15%	Pressure reduced by evacuation of cyst as salt was being given
11	? Moderate	Subcortical glioma; cortical invasion	40 c.c. 15%	Marked reduction in pressure
12	Enlarged	Postchiasmal tumor	60 c.c. 15%	Pressure reduced
13	Small	Subcortical ?	60 c.c. 15%	Pressure reduced
14	Large	Pituitary	90 c.c. 15%	Pressure reduced
15	Small	Temporal lobe tumor	100 c.c. 15%	Pressure reduced slowly; exploration possible

Its immediate value to the surgeon is clearly shown by extracts from the operative notes, relative to the effect of intravenous salt solution:

CASE 5.—On reflection of the osteoplastic flap, the dura was found to be under great tension, too great to warrant opening the dura until pressure had been relieved. An attempt was made by direct ventricular puncture and by collosal puncture to evacuate fluid from the ventricle, without effect.

Two or three incisions were made in the dura on the superior and anterior margins of the opening to see whether the tumor presented on the surface. None could be seen.

Meanwhile 80 c.c. of 15 per cent. solution of sodium chlorid was given intravenously in about twenty minutes, and during this time there was a very decided reduction of tension, so much so that there seemed to be no impropriety in opening the dura. This was done, and the surface of the brain subjected to inspection and palpation.

The exploration was concluded, and some difficulty was experienced in closing the dura, as during the manipulation, the brain had become somewhat swollen. It became necessary to give 40 more cubic centimeters intravenously of 15 per cent. sodium chlorid before the dura could be safely closed.

CASE 9.—Tension was so great that it was thought unwise to reflect the dural flap unless it could be relieved temporarily at least. Almost simultaneously a direct ventricular puncture was made along with the intravenous injection of 60 c.c. of 15 per cent. sodium chlorid solution covering twenty minutes. Very little fluid escaped from the ventricular puncture needle, perhaps only 4 or 5 c.c.; but because of this or because of the effect of the salt solution, the tension diminished appreciably so that we proceeded at once to reflect the dural flap. When about halfway open, the tumor was discovered, involving the cortex, etc.

CASE 8.—To determine what might be expected from the use of salt solution, 35 c.c. of 15 per cent. sodium chlorid solution was given intravenously, and the pressure was reduced by this enough to warrant an exploration.

CASE 4.—To facilitate closure at the conclusion of the operation, the patient received 60 c.c. of 15 per cent. sodium chlorid solution intravenously.

CASE 11.—Before the wound was closed, an attempt was made to determine how much relief might be obtained by the use of sodium chlorid solution. Forty cubic centimeters of a 15 per cent. solution was introduced intravenously in fifteen or twenty minutes. There was decided reduction of pressure by the time the sutures were in place.

Sachs [5] showed that there was no increase in fragility of red blood cells with the introduction of this hypertonic salt solution. No reaction following its use has been noted in the neurosurgical service. Observations here showed that the most marked dehydrating effects were noted in cases of dilated ventricles with hydrocephalus and less so in those presenting large infiltrating growths. However, there was a marked reduction in nearly every case; and the use of this method as a diagnostic sign between an obstructive hydrocephalus and a large infiltrating tumor, although not at all conclusive, may point toward one or the other, depending on the time necessary for the dehydration to occur, large infiltrating growths requiring the longer time.

CONCLUSIONS

1. Hypertonic salt solutions are of great value as dehydrating agents for the rapid reduction of intracranial tension.

2. Magnesium sulphate solution, 1½ ounces of crystals in water by mouth or 3 ounces of crystals in 6 ounces of water by rectum, has given marked relief from symptoms of intracranial pressure and "medullary edema."

3. It is of assistance in eliciting symptoms, otherwise masked by intracranial pressure.

4. The routine administration of magnesium sulphate solution two hours before operation in cases with increased tension has been of decided value.

5. It is of assistance further in checking the rapid advance of papilledema, and in relieving the coma and respiratory depression seen in cases of marked intracranial pressure.

6. In traumatic head injuries in which the pulse and respirations fall below the normal, its use is very effective, so that surgical intervention in this group of cases has been found unnecessary.

7. Rapid dehydration of other fluid collections in the body, as in edema of the lungs, may also be accomplished by this agent.

8. The intravenous injection of from 50 to 120 c.c. of 15 per cent. sodium chlorid solution, covering a period of twenty minutes, has been found a great adjunct in exploratory craniotomies, especially when the dura is tightly distended and ventricular puncture is unsatisfactory or cannot be effected.

FACTORS IN THE ETIOLOGY OF TRAUMATIC APPENDICITIS

WITH CERTAIN CLINICAL OBSERVATIONS

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The comparatively infrequent, but obvious, association of acute appendical attacks with some form of strain or injury immediately preceding the attack has forced on clinicians the question of there being a true relationship of cause and effect present in this repeatedly observed sequence of events. The question has two parts: one having to do with the initiating of an original inflammation in a previously healthy appendix, and the other, with the establishing of an acute exacerbation of a previously existing inflammation.

Concerning the first part of the question there is a unanimity of authoritative opinion to the effect that trauma does not initiate an original inflammation in the healthy appendix; concerning the last part of the question there is a great diversity of opinion. Two factors appear to be responsible, in large measure, for this situation. The first factor is the oft repeated dogma of the textbooks that the appendix is immune to the effects of external violence or muscular strain on account of its deep-seated position in the abdomen and its free mobility.

The deep location and the mobility of the appendix would, indeed, be safeguards against injury if the abdomen were a solid body and, in obedience to the laws of physics, transmitted a received force only in the direction in which the force was applied. But the abdomen is not a solid body. It is essentially a liquid and gaseous mass and is subject to the laws governing the transmission of force by liquid and gaseous mediums, i. e., the pressure exerted on it is transmitted equally in all directions. The deep location of the appendix, therefore, is not a factor that contributes either to the liability of the appendix to damage resulting from external violence, or to its immunity in such an accident.

Concerning the mobility of the appendix, it is reasonable that this factor should facilitate its escape from the area of impact of a force locally applied. But that such escape is of any material moment is doubtful, as will appear later.

The second of the two factors responsible for the previously mentioned diversity of opinion as to the causal relationship of trauma and appendicitis is the variety of meanings with which the word "trauma" is invested, and the absence of histologic proof of mechanical injury to the tissues from without. To illustrate: An acute appendicitis follows the reception of a heavy blow over the right lower quadrant of the abdomen. An appendix, containing a coprolith, is removed, acutely inflamed and about to perforate. The clinician speaks of "traumatic appendicitis." The pathologist returns

his findings as "perforative appendicitis." In another case, appendicitis develops quite in an ordinary manner. There is no suggestion of any violence or untoward incident. The removed appendix with its concretion is sectioned, and minute abrasions of the mucosa, caused by crystallized particles of vegetable iron or by the sharp vegetable hairs described by Shattock,[1] afford obvious portals of entry for micro-organisms. The report from the pathologist is "traumatic appendicitis."

The net result is that any quotation involving the word "trauma" in this connection must, to be intelligible, define the sense in which the word is used. In the present article the word "trauma" is intended to indicate the results of gross violence, or of untoward or unusual muscular action.

There will probably be no question that appendicitis is an infectious disease; that the causative agent gains access to the lumen of the appendix by way of the gastro-intestinal tract,[2] and finds lodgment in the depths of the glands of the appendical mucosa, where it may remain inactive for an undetermined length of time; that the contents of the appendix are received from the cecum; that they are retained in the appendix for a time and then again expelled by it into the cecum; and that the cecal and appendical contents are at all times laden with organisms capable of invading the appendical wall under favorable conditions.

The wide use of the barium meal and the barium enema for diagnostic purposes has made it a matter of common knowledge that cecal contents can be forced into the appendix by relatively slight pressures. Fürbringer and von Hansemann [3] were able to express the contents of a full cecum into the appendix by light manual pressure over the cecum, by light manual pressure over the ascending colon and by the introduction of air into the rectum. They used colored fluids as an indicator.

To reason that a blow on the abdomen or a muscular strain which increases intracecal pressure would probably force cecal contents into the appendix is both logical and in harmony with the observations noted above. If the appendix were normal and its lumen unobstructed through its extent, the appendix would empty itself and the incident would be closed. If the appendix should be unable to empty itself in any portion or throughout the whole of the extent of its lumen, fecal stasis would result. And fecal stasis is a condition well recognized as favorable to infection.

Since the damage comes to the appendix through overdistention of, and fecal stasis in, its lumen, the mere escape of the appendix from the actual impact of a blow on the abdomen is of slight moment. Moreover, it is apparent that it is the ability of the appendix to discharge its contents that determines the future course of events.

Adhesions that compress or angulate the lumen, scars of healed mucosal lesions, fibrous replacement of the musculature of the wall, and, most important of all, coproliths, are the principal lesions that are to be considered in this connection.

Brunig [4] states that while concretions were present in 35 per cent. of his cases of appendicitis, they were found in 65 per cent. of those cases of appendicitis which followed trauma.

The coprolith has for a long time been recognized as conclusive evidence of preexistent appendical disease. It is composed of fecal material mixed with bacterial masses and inspissated mucus, formed in the hypersecretive stage of an inflammation, and remaining throughout the subsidence of the inflammatory reaction to become hardened by chemical change and absorption. Its surface is usually smooth, and it flattens out the mucosa with which it comes in contact, so that the mucosal crypts in the area in contact with the coprolith are obliterated and no longer afford lodgment to organisms. Aschoff [5] states that the primary or most active focus of infection is just distal to the coprolith, and a focus of secondary importance is found at the proximal end of the concretion. The intervening area of mucosa in contact with the concretion is usually free from actual foci of infectious material.

Here, then, we have every condition favorable to the development of a traumatic appendicitis. We have an appendix (*a*) with the lumen obstructed by a coprolith; (*b*) with fecal stasis in, and defective drainage of, the distal segment, and (*c*) with an increase of the virulence of the contained organisms due to their confinement.

If, now, an excess of cecal contents is forced into the appendix, it must either push the coprolith farther toward the tip of the appendix, or flow over and around the obstruction, filling and distending the terminal segment. The immediate result of this afflux of cecal contents is pain, from the distention of the appendix and from its efforts to empty itself. The distended appendical wall is rendered anemic by pressure, particularly in its mucosal layer; an excess of toxin is forced into the tissues by dialysis under pressure; and the virulence of the organisms is heightened by the establishment through the fecal stasis of conditions favorable to their development. These factors eventuate in an immediate and destructive invasion of the appendix wall. This type of appendical disease may be likened to a loaded weapon, the distal segment representing the cartridge and the coprolith representing the firing pin, actuated by the force from behind. The resultant explosion in each is dependent on the amount and character of the confined contents. Clinical experience has well demonstrated the danger from active purgatives in appendicitis. Sir Berkeley Moynihan's [6] alliterative sequence of "pain, aperient, perforation" represents the same mechanism as that obtaining in a traumatic case, but substitutes as the propelling force the hypermotility of the stimulated intestine in the place of direct external pressure.

EVIDENCES OF TRAUMA

In these circumstances there is no finding of free blood in the peritoneum, or histologic evidence of direct trauma to the appendix (with the connotation that has been assigned above to the word "trauma"), both of which findings are urged as essential to the proof of a traumatic appendicitis by Sprengel [7] and other opponents of the idea of a traumatic origin of this affection. Dr. Sprengel's contention that there has never been a case of traumatic appendicitis scientifically proved is undoubtedly correct. The morphologic proof which he demands cannot be adduced because it never exists, and there is no reason why it should exist. In those rare instances in which enveloping adhesions about the appendix have been torn by direct external violence, or

1. Shattock, S. G.: Proc. Roy. Soc. Med., Sec. Path. **13**: 105 (July) 1920.
2. Hematogenous and lymphatic infections are purposely omitted.
3. Quoted by Emil Schepelmann: Med. Klin., June, 1915, p. 687.
4. Brunig, F.: Deutsch. med. Wchnschr. **28**: 322, 1912.
5. Aschoff, L.: Pathologische Anatomie, Ed. 3, **2**: 793-795, 1913.
6. Moynihan, Berkeley: Essays on Surgical Subjects, Philadelphia, W. B. Saunders Company, 1921.
7. Sprengel: Deutsch. med. Wchnschr. **37**: 2318, 1911.

even the appendix wall itself lacerated, the time elapsing between the receipt of the injury and the operation has permitted the rapidly advancing inflammatory process to obliterate all evidence of mechanical injury to the tissues.

Aschoff [8] says:

> Since the lymph follicles of the appendix push forward as far as the epithelium, it follows that, on the occasion of an injury, the epithelial covering is ruptured clear through the capsule of the node. And I have frequently, with sufficiently careful search, been able to demonstrate the very delicate fissures filled with fecal bacteria which have proceeded from the lumen into the substance of the lymph node.

Against this it has been urged that the same findings have been demonstrated in cases of appendicitis in which there was no history of trauma. The presence of these bacteria-filled fissures does not prove trauma, but does indicate very clearly an overdistention of the appendical lumen to the point of actual rupture of its lining epithelium, and the admission of infectious organisms into the substance of the appendical wall. Muscular strain or the action of an aperient, as has already been indicated, would readily account for the presence of these fissures in cases not associated with a history of external violence. These factors invalidate the objection.

When it is considered that active lesion of the appendix wall can be demonstrated within one hour of the beginning of an infectious process, and that perforation may occur in six hours, it seems doubtful whether operative interference will ever be sufficiently prompt to provide the laboratory with material from these cases which will be of definite value in the study of the earlier histologic pictures following trauma. It would seem probable that these histologic pictures would be identical with those from cases not associated with trauma.

As no laboratory help has, in the past, been available to aid in the discrimination between traumatic and nontraumatic appendicitis, and as none seems likely to be forthcoming, the recognition of the traumatic case must, for the present at least, depend on accurate clinical observation. Four points are to be considered: (*a*) the anamnesis; (*b*) the circumstances of the immediately preceding trauma; (*c*) the time relationship between the trauma and the onset of symptoms, and (*d*) the pathologic conditions found at operation.

Unfortunately, there is little information of real value to be gleaned from the anamnesis. Inflammatory conditions may have eixsted in the appendix for years wholly without the knowledge of the patient; or a most circumstantial history may be woven about an appendix entirely free from disease. Again, there may have been an active appendicitis which has long since undergone complete resolution, leaving no trace behind.

A knowledge of the circumstances attending the immediately preceding trauma is of great value and should be carefully acquired in detail, not only as to the character and severity of the injury, but also as to whether it was a single impact or a series of impacts, as to whether general to the abdomen as a whole or local, as to the location of the impact on the abdominal wall, and, most particularly, as to its proximity to the cecum and the ascending colon. Falls on the abdomen, kicks, heavy blows and the striking of the right lower quadrant against the corner of a table or similar object are among the more usual causative injuries. Muscular strain usually occurs in lifting. Sir William Osler [8] says, "Persons whose work necessitates the lifting of heavy weights seem more prone to the disease. Trauma plays a very definite rôle, and in a number of cases the symptoms have followed very closely a fall or a blow." This was written at a time when only the more acute forms of the disease as we recognize it today were denominated appendicitis.

While it is true that an attack is more likely to follow those injuries which fall on the region of the cecum or the ascending colon, it may follow a general diffuse abdominal trauma, as illustrated by Case 1:

> CASE 1.—A girl, aged 10 years, fell from a swing a distance of about 2 feet and landed prone on level ground. Pain was immediate and severe, vomiting followed, and eighteen hours after the fall all the symptoms of peritonitis were obvious, and the operation, thirty hours after the fall, disclosed an appendix acutely angulated at its midpoint by a single firm adhesion. Immediately distal to the point of angulation, all of the coats of the appendicular wall were ruptured. An actively advancing peritonitis was present. There were no delimiting adhesions.

Case 2 is another example of appendicitis following general, and in this instance repeated, trauma to the abdomen as a whole.

> CASE 2.—A boy, aged 9 years, was industriously enjoying the first sliding of the winter by "belly floppin'" on his sled. On account of abdominal pain, he abandoned his sport after about two hours' play. Vomiting followed, and seventy-two hours afterward a perforated gangrenous appendix containing a coprolith was removed from a well-walled-off abscess containing 4 ounces of the usual foul colon pus.

In those instances in which the trauma has been received immediately over the cecum or ascending colon, there are two factors of equal importance to be considered. One is the force of the blow, and the other is the directness with which that force is permitted to act on the cecal contents—its "access to the cecum," so to speak. This "access" is influenced very considerably by the muscular development of the individual, by the amount of adipose tissue in the abdominal wall, and by the preparedness of the muscles of the abdomen to receive the impact. It is obvious that in a thin walled abdomen with a minimum of adipose tissue and poorly developed musculature in a normal state of relaxation, a less force will be required to exert a given amount of effect on the underlying intestine than would be required to produce that same amount of effect in an abdomen with thick, powerful muscular walls, an abundance of overlying fat and the musculature held tense in anticipation of an impact.

> CASE 3.—A schoolgirl, aged 19 years, feared that she was the victim of an appendical attack on account of some transient right lower abdominal pain, which recurred at intervals. She had previously experienced two brief attacks of appendicitis, with intervening intervals of two or three years. On the examining table she relaxed well, the abdominal wall was thin, and conscientious deep palpation of the right lower quadrant failed to elicit any evidence which would justify an opinion that the appendix was inflamed. Reassured that her fears were groundless, she went home and, as directed, took a saline aperient. As she was leaving the office she complained that the examination had "made it ache down there." The ache grew worse, vomiting ensued, and at 5 o'clock the following morning, sixteen hours after the "conscientious deep palpation," a sudden agonizing pain announced the perforation of the appendix, which, together with its contained coprolith, was removed two hours later.

COMMENT

When, as in this instance, an aperient has been administered, the responsibility for ensuing destructive dis-

8. Osler, William: Practice of Medicine, Ed. 3, 1899, p. 524.

ease of the appendix must be divided between the trauma and the aperient. As to the trauma itself, it was mild in degree, but its "access" to the cecal contents was unimpeded by any of the previously mentioned factors.

It is not probable that a local injury to a portion of the abdominal wall remote from the cecum would give rise to an attack of appendicitis. Such an injury, if of sufficient severity to cause any material increase in the intracecal pressure, would most probably result in damage to the viscera lying immediately under the site of the injury. Blows on the back and flanks do not cause appendicitis, because of the large and powerful muscles which are interposed between the impact and the abdominal cavity. A considerable portion of any force applied in these regions is transmitted to and dispersed by the heavy bony structures to which these muscles are attached, while at the same time the thinner and more elastic portions of the abdominal wall are free to expand and dissipate the transmitted forces.

Bearing in mind that the initial pain in cases of traumatic appendicitis is due to the overdistention of the appendix and to its efforts to relieve itself of the burden by peristaltic action, it is readily appreciated that the onset of pain in the true traumatic case will be either immediate or occur within a very brief time after the injury. The appendical wall may have been so altered by preceding disease as to render an immediate peristaltic response to overdistention impossible. In this event, there will be a delay of a few hours in the onset of the pain, pending the accumulation of products of inflammation.

When the onset of the pain is immediate, it is usually of moderate severity, and it frequently diminishes or disappears entirely in a brief time. In a few hours it returns with renewed intensity, is usually accompanied by vomiting, and the classical clinical picture of peritonitis is rapidly completed. This pain-free interval is caused by the failure of active appendical peristalsis incident to the progressive destruction of the appendical wall and the anesthetizing effect of the accumulating edema on the terminal nerve filaments concerned in the neuromuscular reflex arc. This pain-free interval is invariably the preperforative stage of the true traumatic appendicitis, and the ideal time for effective operative intervention. Unfortunately, it is frequently looked on as an indication of improvement, and the opportunity to forestall the catastrophe of perforation is lost. If in a given case the circumstances are such as to justify the reasonable belief that damage has come to the appendix through trauma, this fact alone justifies immediate operative intervention. And this is particularly true in children.

The most important and reliable information bearing on the question of trauma as the causative factor of an appendicitis is obtained at operation. The question which the observer must consider has to do with the condition of the appendix at the moment the trauma was received. He must discriminate between the acute pathologic condition that has been added by the inflammatory reaction subsequent to the trauma, and the more ancient pathologic conditions which antedated the trauma. From the whole picture as presented at the operating table he must subtract the former and consider whether there remains a lesion sufficient to have materially impeded the emptying of the lumen of the appendix at the time of the injury. It is a question for nice judgment.

Clinical Notes, Suggestions, and New Instruments

OSTEOMYELITIS OF CREST OF RIGHT PUBIC BONE

A. BELCHAM KEYES, M.D., CHICAGO

The infrequency of pubic osteomyelitis, both as a spontaneous disease, and as secondary to the rare anterior pelvic (parametric) abscess that may later involve the bone, makes a report of this case of especial interest.

History.—Mrs. R. W., white, aged 24, with one boy, living and robust, aged 3, was brought to my office, April 7, 1920. With the exception of children's diseases she had always had good health. The heredity was good, and the patient stated that there had been no venereal disease, attempts to induce abortion, or pelvic treatment or examination of any kind.

In the autumn of 1918, she had influenza and pneumonia, being sick about four weeks, with very violent spells of coughing, occasionally lasting as long as fifteen minutes, and often accompanied by bleeding from the mouth and ears.

Some weeks after recovery, though still quite weak, she went to work in a stationery store. While working, she had to clean out big show cases, which required a crouching position and considerable stretching in order to reach the farthermost parts. The patient also had to carry up heavy bottles of ink and other supplies from the basement of the store. These duties, in her still weak condition, were very exhausting, but she apparently always recuperated rapidly after a short rest.

Some evenings later, feeling stronger, she attended a basketball game. When the game was over and she was arising to go home, she was taken with a terrifically violent pain in the rectum, necessitating her sitting down in the snow to rest on the way home, only a few blocks away. It was near her menstrual period, and as she had had similar pains before (at such times), though never so severe, she thought no more of it.

However, the following morning she was so sick that the family doctor was called in and made a pelvic examination, causing her much additional pain. He reported finding nothing more than a displacement of the uterus. The pain was still so severe that she was forced to remain in bed, and at night on several occasions hypodermics had to be resorted to, in order to allow her to rest.

After fourteen weeks in bed she could sit up a little; so she, accompanied by her mother, was taken, in a wheel chair, by train to the Mayo Clinic. Here an examination was made, and she was told that she was suffering from a pelvic abscess, which was discharging into the vagina, and advised to return home and take hot douches of compound solution of cresol and hot sitz baths, and to report back to Rochester in three months.

By following out this treatment faithfully, she gained a little strength, and, with great effort, she was able to walk. Her husband having moved to Chicago, she did not report back to Rochester.

Examination.—When I first saw her, she was barely able to walk, and was much emaciated. She entered the Passavant Memorial Hospital, Chicago, April 8, for complete diagnosis and in order to be built up for possible operation. The physical examination showed some thickening and tenderness around the pubic bone on the right side. Other organs, supradiaphragmatic and infradiaphragmatic, were normal; the urine, vaginal smear, and Wassermann tests were all negative; the husband stated that she had not been exposed to venereal disease, either before or after marriage. A roentgen-ray examination by Dr. S. R. Hurlbut (Passavant Hospital) revealed inflammation and loss of substance of the crest of the right pubic bone.

Operation.—April 14, Dr. Keyes performed a laparotomy and sterilization by removal of both tubes and anterior fixation of the uterus. Intraperitoneally there was no inflammation. After the abdominal incision was closed, a lower

transverse incision was made over the cavum retzii, and the affected right pubic bone was curetted, and iodin and an iodoform gauze drain were inserted.

Course.—April 26, she left the hospital, still with a discharging sinus, and returned to the office every two or three days for dressing. Health, strength and the ability to walk returned gradually.

The patient was readmitted to the Passavant Hospital, October 4, and the soft parts were again opened widely and recuretted for removal of bone sequestrums. Iodin and a drain were reinserted. The patient was again discharged from the hospital, October 30. The sinus was still open, but strength and ability to walk now became markedly improved. The patient returned to the office, for a time, on every third day to have the wound dressed, during which time repeated roentgenograms were taken by Dr. Hollis E. Potter to note progress.

The healing having progressed considerably, the patient was allowed to go to Boise, Idaho, where she continued the dressings under my instructions. The last report from the patient, March 15, 1923, says, "Wound entirely healed for the past sixteen months. Am able to do all my own housework, dance, run and hike up the mountains, and do what any one else can do."

122 South Michigan Avenue.

TRAUMATIC PNEUMOTHORAX CAUSED BY TOY BALLOON

FRANK S. CHILD, JR., PH.M., M.D., PORT JEFFERSON, N. Y.

Edith D., aged 4 years, had been to the circus, Aug. 5, 1921. While returning home, she was running with a balloon stick in her mouth, and fell face downward. In falling, the stick was driven into the left side of her throat, piercing the thorax. The little girl picked herself up and pulled the broken stick from her mouth. She was immediately taken home. When I saw her one hour later, she was expectorating blood. Her mother stated there was considerable bleeding at first.

On examination, I noted that the left neck was very tender, the base of the tongue was lacerated, and there was a slight oozing of blood from the left side of the throat. The front of the neck was swollen, and the skin crackled when palpated, because of the emphysema. She was in moderate shock, with a respiration of 40 and a pulse of 150. Cold compresses were applied to the neck, and the patient was kept in bed.

The following day, August 6, amphoric breathing was noted over the entire left chest, and there was no respiratory movement on this side. The general condition of the little patient was good and continued to improve until August 13, eight days after the accident. Then she had a chill, followed by a fever of 104. By August 15, her condition had become so serious that I had her removed to the hospital. At this time she had a temperature of 105.4, pulse 170, respiration 54. I suspected pneumonia. Examination of the chest was very difficult because of the amphoric breathing, although bubbling râles could be heard. A roentgen-ray examination disclosed a collapsed lung on the left side, but no sign of fluid. A diagnosis of lobar pneumonia was made and the development of an abscess feared. The prognosis seemed poor.

At this time, August 17, Dr. Richard Derby of Oyster Bay was called in consultation. He advised a continuation of the expectant treatment. For five days the patient continued in an uncertain condition, her temperature remaining around 105. Then the fever began an irregular course, subsiding by lysis.

August 25, the roentgen-ray examination revealed a slight expansion of the lung, and on September 8, thirty-four days after the accident, another roentgen-ray examination showed a normal expansion of the lung. Amphoric breathing had disappeared, and only scattered crepitant râles remained.

The patient was discharged from the hospital, September 11, with a respiration of 34. Nov. 1, 1921, I examined her and found the lungs in normal condition, and although the little girl still showed effects of her illness, she was playing about the house. April 1, 1923, I examined her again, and found her active and in excellent physical condition.

I am prompted to call attention to this case because of mention of similar accidents recently in THE JOURNAL.[1]

209 East Broadway.

HEMANGIOMA OF THE SPINAL CORD

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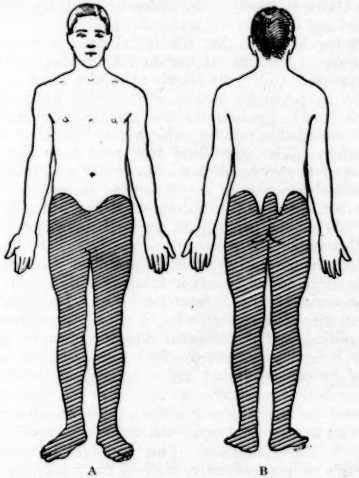
Although I have nothing new to add to the subject of hemangioma of the spinal cord, the extreme rarity of the condition warrants the report of a case which came under my observation recently. Up to the year 1915, Cobb was able to compile seven cases from the literature, to which he added one of his own, making a total of eight. A careful search of the literature since 1915 has not revealed an additional instance; therefore, the case which I am now reporting is the ninth on record.[2]



A B

Fig. 1.—Distribution of sensory loss (shaded portion): *A*, ventral surface; *B*, dorsal surface.

REPORT OF CASE

History.—R. H., a youth aged 14 years, entered the Elyria Memorial Hospital, May 12, 1922, complaining of complete paralysis of both lower extremities and both sphincters. His family history contains nothing of importance. His personal history is negligible except for one fact. About eight months previous to his entry into the hospital, while walking through the woods, he was seized with a severe attack of pain in the right groin, which lasted about five minutes. After resting a short time, he was able to continue his walk and then return home, a distance of several miles. A few months later, he had a similar attack, which also lasted only a very short time and, as in his previous experience, complete cessation of the pain took place in five or ten minutes. During this entire time, he walked back and forth to school, a distance of 4 miles each way. Finally, in January, 1922, while sitting in a chair at his home, he was again taken with excruciating pain in the right groin. On this occasion, however, the pain was much more intense than in his previous attacks. Furthermore, instead of abating after a short period of time,

1. The Fatal Toy Balloon, London Letter, J. A. M. A. **80**: 1017 (April 7) 1923.

2. The Histories of the previously reported cases and a review of the entire subject are given by Cobb, Stanley: Ann. Surg. **62**: 641 (Dec.) 1915.

as had been its custom, it grew steadily in severity, and compelled him to take to his bed. The onset of the pain occurred at about 10 o'clock in the morning; by 7 that evening, he was completely paralyzed from the waistline down, including both sphincters.

The physical examination, with the exception of the neurologic findings, showed nothing of interest.

Neurologic Examination. — This was performed by Dr. Stevens of Elyria, Ohio. The pupils were round and equal in size. They reacted promptly to light and in accommodation. There was no nystagmus. There was no diplopia. There was no impairment of the innervation of the facial muscles. There was no atrophy or paralysis of the upper extremities. The biceps, triceps and periosteoradial reflexes were normal on both sides. The umbilical reflex was present in the upper quadrants, but absent in the lower quadrants. The cremasteric reflex was absent. The Achilles tendon reflexes and plantar reflexes were absent. There was complete flaccid paralysis of the legs from the hips down. Sensory tests showed a complete loss of all sensations in the legs from a point about 3 cm. below the crest of the ilium. On the dorsal surface, the zone of anesthesia was slightly lower. The exact distribution of the sensory loss is shown in Figure 1. Coordination of the arms was good.

Fig. 2.—Hemangioma of the spinal cord. From original drawing made at time of operation, by Ruth Blanchard.

Laboratory Tests.—Lumbar puncture was performed, and 8 c.c. of clear spinal fluid under moderate pressure was withdrawn. The cell count was 11 per cubic millimeter. The Nonne test was positive. The colloidal gold test was: 1342000000. The Wassermann reaction on the spinal fluid and the blood was negative.

From a consideration of the paralyzed muscles, the zone of anesthesia and the reflexes, it appeared that the lesion implicated the spinal cord in the twelfth dorsal segment..

When I first saw the patient, July 1, 1922, he was very emaciated and had two large decubiti over the buttocks. The neurologic findings were the same as previously described.

The diagnosis was tumor of the spinal cord involving the twelfth dorsal segment.

Operation.—The lamina of the eighth, ninth, tenth and eleventh dorsal vertebrae were removed and the dura exposed. This membrane was very tense and presented a peculiar dark blue color. When the dura was opened, a mass of large distended veins, about 5 cm. in length and 2 cm. in width, immediately presented itself. These veins appeared to take origin in the pia. The underlying cord was markedly compressed in its anterioposterior diameter. No attempt to remove the tumor or ligate the vessels was made. The dura was not sutured, and the remainder of the wound was closed in the usual manner.

COMMENT

This case presented practically the same symptoms as the cases previously reported. The acute onset of the symptoms and the paralysis were undoubtedly due to a hemorrhage into the cord which originated in the tumor.

Cobb pointed out that, in cases in which a sudden bilateral paralysis is antedated by one or more severe attacks of pain, with symptom-free intervals between the attacks, the presence of a hemangioma of the spinal cord must be considered.

When I last saw the patient, March 3, 1923, his general condition was greatly improved, but there was no improvement as far as the paralysis is concerned.

3912 Prospect Avenue.

A MUSCLE INDICATOR FOR PLOTTING OUT THE FIELD OF DIPLOPIA AND VISUALIZING THE POSITION OF THE MUSCLE INVOLVED WITH FACE TURNING AND HEAD TILTING

EDWIN B. MILLER, M.D., PHILADELPHIA

In 1922, at the March meeting of the Ophthalmic Section of the College of Physicians, Philadelphia, I presented the original model of the muscle indicator. From the favorable comments made by the fellows at that time, I was encouraged to complete the apparatus.

It is not intended that this apparatus take the place of the study of the ocular muscles, but that it be used as a reference to help visualize conditions as they exist. It can be held in the hand in the presence of the patient, and will help to pick out quickly and accurately the muscle or muscles at fault.

The classification employed is that according to Duane. Both right and left turners are shown on the central part of arm A, the white line representing the true image and the red the false image. The right turners are the right external rectus and the left internal rectus. The left turners are the left external rectus and the right internal rectus. The elevators and depressors are shown on the squares at the ends of arm A, the white lines representing the true image and the red the false image. The right hand elevators are the right superior rectus and the left inferior oblique. The left hand elevators are the left superior rectus and the right inferior oblique. The right hand depressors are the right inferior rectus and the left superior oblique. The left hand depressors are the left inferior rectus and the right superior oblique.

The method of using the indicator, described on the back of the apparatus, is as follows:

The patient is seated in a darkened room. A trial frame with a red glass is placed over one eye. The examiner stands about 10 feet in front of the patient with a lighted candle or small electric light. The field of diplopia is located.

Muscle indicator.

In paralysis of the right turners the false image is in the right field, and in paralysis of the left turners the false image is in the left field. The maximum separation of the images is in the lateral direction.

In paralysis of the elevators the false image is in the upper field, and in paralysis of the depressors the false image is in the lower field. The maximum separation of the images is in the vertical direction.

If the straight muscles are involved, the vertical separation of the images is greatest when the eyes are turned toward the affected side. If the oblique muscles are involved, the vertical separation is greatest when the eyes are turned toward the sound side.

To identify the muscle involved when the false image is in the lateral field, the indicator is held before one to the right, if one is studying the right field, or to the left, if studying the left field, with arm A in a horizontal position. The red figures in the center of the horizontal arm represent the false image; the white ones the true image. The

schematic eye is turned until the red arrow points toward the false image that is nearest on the indicator, which corresponds to the false image already located in the field of diplopia, and the findings on the chart are now read.

In locating an elevator or depressor, the indicator is held before one with arm A in a vertical position and to the right. The schematic eye is turned until the red arrow points toward the false image that is nearest on the indicator, which corresponds to the false image already located in the field of diplopia, and the findings on the chart are read off.

FACE TURNING

In paralysis of the turners, the face has a tendency to turn in the direction of the line of normal action of the paralyzed muscle; in paralysis of the right turners, the face is turned to the right; in paralysis of the left turners, the face is turned to the left.

In paralysis of the right hand elevators, the face is turned to the right in the direction of the maximum pull of the right superior rectus, which is exerted when the right eye is turned out 23 degrees, or of the left inferior oblique, which exerts its maximum pull when the left eye is turned in 39 degrees.

In paralysis of the left hand elevators, the face is turned to the left, in the direction of the maximum pull of the left superior rectus, which is exerted when the left eye is turned out 23 degrees, or the right inferior oblique, which exerts its maximum pull when the right eye is turned in 39 degrees. The same rule holds good for the right and left hand depressors.

HEAD TILTING

The normal physiologic pull of the superior recti, when the eyes are moved from the primary position (parallel, looking straight ahead) is up and the upper end of the vertical corneal meridian is rotated in toward the median line; therefore, the head is turned up and tilted in toward the sound side.

The normal physiologic pull of the superior oblique, when the eyes are in the primary position (parallel, looking straight ahead) is down, and the upper end of the vertical corneal meridian is rotated in toward the median line; therefore, the head is turned down and tilted in toward the sound side.

The normal physiologic pull of the inferior rectus, when the eyes are in the primary position (parallel, looking straight ahead) is down and the upper end of the vertical corneal meridian is rotated out; therefore, the head is turned down and tilted out or toward the affected side.

The normal physiologic pull of the inferior oblique, when the eyes are in the primary position (parallel, looking straight ahead) is up and the upper end of the vertical corneal meridian is rotated out; therefore, the head is turned up and tilted out or toward the affected side. These facts can be demonstrated by the indicator.

For example, in a case involving branches of the third nerve, causing paralysis of the right internal rectus and the right superior rectus, the face would have a tendency to turn toward the sound side in an effort to modify the diplopia caused by paralysis of the internal rectus, and up and out to modify the diplopia caused by paralysis of the right superior rectus, while the head would be tilted toward the median line; therefore, one would have a tendency to equalize the other. The external rectus would still be acting strongly and, with the two obliques, would be rotating the eye out, while the inferior rectus would be turning the eye down, overcoming the action cited above. Finally, the eye would be down and out and the face would be turned in, with tilting of the head up and in toward the sound side.

In every case the action of the antagonist as well as the synergist muscles must be grouped together and their action studied.

2008 Walnut Street.

Early Birds.—Traces of teeth are found in the embryos of some of the birds of today and are believed to be a heritage from early primitive reptile-like ancestors which had a full set of teeth.

A CASE OF CHRONIC APPENDICITIS SIMULATING ANGINA PECTORIS

ANTHONY BASSLER, M.D., NEW YORK

Instances of chronic appendicitis being confused with disturbance in the gallbladder, gastroduodenal ulcer and various functional gastric disturbances are well known, operation usually disclosing the misdiagnosis, generally with benefit to the patient from the indicated surgery. There being no surgery or curative treatment for angina pectoris, this case is of interest:

A. M., a stock broker, aged 50, came under observation, Jan. 17, 1922. His father died of "heart disease," his mother of apoplexy. His past history was negative. He had been constipated most of his adult life, excepting on vacations, so he thought it was due to nervousness from active business strain. One night in early November, 1921, he suddenly awakened with an intense pain in the lower abdomen, followed by a temperature of 104, nausea and vomiting. The illness lasted four days, and was treated by rest in bed and colon irrigations, the latter being continued for two months. About a week after the onset of this illness he began to have a burning sensation in the chest. This was independent of meals or other noticeable cause, and gradually intensified and deepened into distinct pain. The attacks of burning and pain would come on suddenly, continue for varying lengths of time, and stop quickly. Various measures of treatment were employed without benefit. These attacks were always brought on by exertion, at first not so marked, but in a few weeks so severe that he was unable to walk from his home to his office, a distance of about 700 yards, without severe attacks.

He reported: "Yesterday morning I got up feeling fine. The pain came on, but it was not bad. I left my house for the office, and after walking about 200 feet, it became so terrific that I had to sit down in the street. I was gripped so tight that I could not breathe, and a passer-by told me afterward that I was white as a sheet, was doubled up with my knees on my chest, and was crying in agony. Within a few minutes I was all right again, and proceeded to walk to the office. After walking about 150 yards, it came again worse than before, because it lasted longer. A passer-by took me in his car to the office and, sitting on my desk chair, I worked hard all the day and felt fine. I have been to see three physicians who say I have angina pectoris. In the last three weeks, when the attack comes on, I have a marked pain down the left arm."

The patient was well nourished. His tongue was coated, and he had a marked gastric splash and moderate hemorrhoids. The urine contained an excess of indican and urorosein, a very occasional hyaline cast and a few pus cells. The gastric contents showed a slightly increased acidity, but otherwise were normal. The stool examination showed occult blood, excess mucus, and a high (90 per cent.) gram-negative count. The heart was of the dropped type, transverse measurement 11 cm. and oblique 13 cm., and was apparently normal. The vessels were normal. The systolic blood pressure was 145; diastolic, 93. Roentgen-ray examination of the abdomen displayed a moderate ptosis and an abnormal appendix, which was tender on pressure at the time the physical examination and three fluoroscopic examinations were made.

January 21, the appendix was removed by Dr. Charles Peck. The diagnosis was confirmed, and the patient made a smooth recovery. Microscopic examination showed the usual findings of a chronically diseased organ with subacute addition. After leaving the bed, some slight attacks of burning sensations and slight pain in the chest occurred on exertion, these lasting (gradually getting less) for about three months. A year has now transpired since the last of these, and the man has been uninterruptedly well. On many occasions he has tried by vigorous exercise (ice-skating, swimming, very long walks, laborious work on his farm) to test himself, and he has experienced no recurrence of the chest symptoms.

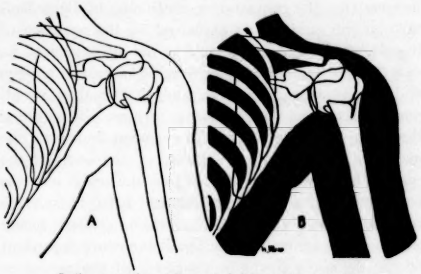
21 West Seventy-Fourth Street.

ROENTGEN-RAY SILHOUETTES: A METHOD OF CASE RECORDING *

JOHN J. MOORHEAD, M.D., NEW YORK

A number of methods have been designed for recording roentgen-ray findings, particularly in cases of fracture. These methods vary from a simple tracing to an elaborate colored photograph. During the war, the French had a very good idea in which colored chalk was used; but while this method is excellent and graphic, it requires considerable time and experience.

At the Post-Graduate and Beekman Street hospitals I have recently been using a modification of this French plan; our roentgen-ray records are now in black and white, and for want of a better name, I call them silhouettes.



Ordinary tracing (*A*), and finished silhouette (*B*).

An ordinary tracing is first made (*A*) on architect's tracing paper (sometimes called vellum), and then the interosseous and extra-osseous parts are painted solid black (*B*) with a small brush, a dull black paint, such as black japan, being used. The parchment-like tracing paper is quite absorptive, and the paint will not run. An ordinary 8 by 10 plate with the usual size image can be traced in about eight minutes, and shortly thereafter the paint will be dry enough to permit the silhouette to be handled. These tracings stand up with great detail when held up to the light, as in a viewing box or before the window, and they have the additional advantage of standing out prominently when used as illustrations in a magazine or a book.

For the final development of the method and for the detailed care with which it has been evolved, I am indebted to Mr. Harry Wein, roentgen-ray technician at the Beekman Street Hospital.

115 East Sixty-Fourth Street.

A CASE OF CAISSON DISEASE, OR DIVERS' PARALYSIS, TREATED WITH COMPRESSED AIR

W. H. PERRY, M.D., WASHINGTON, D. C.
Lieutenant, Medical Corps, United States Navy

On the afternoon of March 3, 1922, O. T., a deep sea diver employed by a wrecking company of New London, Conn., was stricken with complete loss of power of the lower extremities half an hour following an ascent from a dive in 95 feet of water. He had worked on the bottom for an hour and ten minutes, and was brought to the surface in less than four minutes. Symptoms appeared fifteen minutes after the removal of the diving dress. He first noticed incoordination in walking, and a feeling of weakness in both legs. Half an hour after the ascent he had completely lost control of the lower extremities. From his own statement, there were no areas of anesthesia. There was retention of urine. There was no headache, vomiting or dyspnea. So far as we were able to determine, the patient did not experience the customary pains in the joints referred to as "bubbles" by deep sea divers.

The morning of the same day, this diver had made a dive at the same depth and remained on the bottom for an hour and four minutes. The accepted theory as to the cause of caisson disease is that bubbles of nitrogen are liberated in the various body tissues, including the blood, and, on a sudden decrease in pressure, emboli and infarcts are formed because of the slow absorption of nitrogen. It then seems reasonable to assume the tissues in the case of this diver were more or less saturated with nitrogen as a result of the first dive, and on the sudden decompression following the second dive his body was unable to take care of the excess nitrogen, and as a result an embolus was formed along the motor area.

In view of the fact that this diver had made a previous dive the same day at the same depth, at least fifty-two minutes should have elapsed from the time he left the bottom until he reached the surface. He was placed in the recompression tank of the U. S. S. *Falcon* at the New York Navy Yard twenty-three hours after the attack, and subjected to pressure according to tables prepared by G. R. W. French. Thirty minutes at 50 pounds served to give complete relief of all symptoms. The patient remained in the tank four hours.

* Read before the Section of Surgery, N. Y. Academy of Medicine, March 2, 1923.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

NEUTRAL ACRIFLAVINE.—Acriflavina Neutra.—The base, 3:6 diamino-10 methylchloracridine, $C_{14}H_{14}N_3Cl+H_2O$.

Actions, Uses and Dosage.—Neutral acriflavine has the actions and uses of acriflavine (See Acriflavine and Proflavine, New and Nonofficial Remedies, 1923, p. 23) but being neutral in reaction is claimed not to have the smarting and irritating effect of acriflavine solutions.

Neutral acriflavine is a brownish-red, odorless, granular powder. It is soluble in less than 2 parts of water, forming a brownish-red solution which fluoresces on dilution and which has a bitter taste; incompletely soluble in alcohol; nearly insoluble in ether, chloroform and the fixed volatile oils. An aqueous solution of neutral acriflavine (1:250) is neutral to congo paper (*distinction from acriflavine which has an acid reaction*).

Add a few drops of hydrochloric acid to an aqueous solution of neutral acriflavine which is sufficiently dilute to be fluorescent. The fluorescence disappears, but partially reappears on further dilution with water. Add 2 drops of sulphuric acid to about 1 Cc. of an aqueous solution of neutral acriflavine (1:250) and agitate the mixture. An orange-red precipitate is produced. An aqueous solution of neutral acriflavine (1:250), acidified with nitric acid, gives a precipitate with silver nitrate solution (*distinction from proflavine*). An aqueous solution of neutral acriflavine (1:250), acidified with hydrochloric acid, does not give a precipitate with barium chloride solution (*distinction from proflavine*). An aqueous solution of neutral acriflavine (1:250) does not give a precipitate with formaldehyde solution (*distinction from proflavine, which gives a brown precipitate*). Add 2 drops of diluted hydrochloric acid to 5 Cc. of an aqueous solution of neutral acriflavine (1:250) and immediately add 2 drops of sodium nitrite solution (1:10). A violet color is produced. By the further addition of an excess of sodium nitrite solution, a violet precipitate is formed, and, after a few minutes, the color of the solution becomes cherry-red. This may be best observed after filtration (distinction from proflavine, the filtrate from which is colorless). An aqueous solution of neutral acriflavine (1:250) gives an orange precipitate with sodium hydroxide test solution (*distinction from proflavine, which gives a yellow precipitate*).

Dry about 1 Gm. of neutral acriflavine, accurately weighed, to constant weight at 100 C. The substance loses not more than 10 per cent. of its weight. Dissolve about 1 Gm. of neutral acriflavine, accurately weighed, in 250 Cc. of warm water, collect the insoluble matter, if any, in a weighed Gooch crucible, wash the insoluble matter with hot water, dry and weigh the residue. The insoluble matter amounts to not more than 0.5 per cent. Heat with an excess of sulphuric acid at a low temperature about 1 Gm. of neutral acriflavine, accurately weighed. The "sulphated" ash amounts to not more than 4 per cent.

Neutral Acriflavine-Abbott.—A brand of neutral acriflavine-N. N. R.

Manufactured by The Abbott Laboratories, Chicago, under U. S. patent 1,005,176 (Oct. 10, 1911; expires 1928) by license of the Chemical Foundation, Inc. No U. S. trademark.

Tablets Neutral Acriflavine-Abbott, 0.03 Gm. (½ grain).

Enteric Coated Tablets Neutral Acriflavine-Abbott, 0.03 Gm. (½ grain).

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SATURDAY, MAY 19, 1923

THE WASSERMANN TUBERCULOSIS REACTION

As has been widely reported,[1] Dr. August von Wassermann, originator of the well known test for syphilis, has succeeded in devising a serologic test for tuberculosis which, he claims, is more specific than other tests thus far devised. According to a recently issued statement, the formulation of this test was begun by the preparation of an antigen freed from the lipoid substances of the bacilli by a prolonged extraction with tetralin. The latter substance is a naphthalene with four molecules of water of hydration, and has a neutral reaction. After the lipoid substances are removed, the remainder acts as a strong tuberculin and is capable of producing complement fixation antibodies. It also gives a strong reaction with the serums of animals immunized with tubercle bacilli.

Wassermann [2] reports that he was at first disagreeably surprised when he found that the antigen did not react with the serums of men and animals suffering from tuberculosis, and addition of the extracted lipins did not improve the test. However, other authors, especially Bougouet and Negri, Much and Meier, who are quoted by Wassermann, found that lipoids play their part in the immunizing phenomena in tuberculosis. Moreover, Rabinowitsch-Kempner recently found that the serums of patients with tuberculosis give a certain reaction with the syphilitic reagent of Sachs-Georgi. These considerations led Wassermann to add lecithin to his antigen, for, he points out, the bacilli alone do not make the symptoms of the disease. The reaction of the tissues is equally involved. Therefore, it is necessary to add lecithin for the clinical test, whereas this addition is superfluous in immunized animals in which there are only bacilli and not affected tissues. Wassermann concludes that his test reveals the presence not only of tuberculosis but also of active tuberculosis, since it is the actual affection of the tissues that makes necessary the addition of lecithin and produces the response to the test. It is, of course, possible, as Wassermann himself points out, that lecithin may act merely to make the reaction more easily apparent. However, the serum from the immunized animal reacted with the lecithinized antigen in greater dilutions than without lecithin. Wassermann found that cholesterol also increased the sensitiveness of the test, but that it led easily to nonspecific reactions with syphilitic serums.

The new test was used on several hundred patients, and the results indicate that whereas the positive reaction proves the presence of active tuberculosis, a negative reaction does not seem to exclude it. Wassermann believes that the comparative usefulness of Besredka's and Negri's antigens is explained by the presence of lipoids, and that his antigen has the advantage of an exact proportion between the specific tuberculin antigen and the amount of lipoids, and that it thus avoids positive reactions with syphilitic serums. In outlining the test, Professor von Wassermann indicates the necessity for controls consisting of the extract, the serum, nontuberculous serum and the usual controls employed with the Wassermann test for syphilis. He considers it advisable to use a known syphilitic serum as one of the controls. The test is therefore dependent on the definitely lipophilic character of the serum of the tuberculous, and on the fact that such serum is differentiated from the serum of syphilitics in that it does not react with lipoids alone, other components being needed in the antigen. It also differentiates serum from patients actively tuberculous from the serum of patients having tubercle bacilli but not active lesions; the former require more lipoid in the antigen in order to give a positive reaction than do the latter.

Whether or not the newly designed test will prove to be of the same value as the well known reaction for syphilis is, of course, dependent on extensive confirmation by other serologists. Its clinical and practical value will lie in the early detection of active processes of the disease with the hope of modifying the hygiene of the individual so as to permit cure of the disease while cure is possible. However, the lack of any efficient medicinal armamentarium against this disease as compared with syphilis would appear to lessen to some extent the practical importance of the work.

1. Berlin letter, J. A. M. A. **80**: 1329 (May 5) 1923.
2. Von Wassermann, August: Ueber experimentelle Grundlagen für eine spezifische Serodiagnostik auf aktive Tuberculose, Deutsch. med. Wchnschr. **49**: 303 (March 9) 1923.

SUPPLY OF PHYSICIANS IN RURAL ENGLAND

The United States is not the only country in which a lack of physicians threatens in rural communities. England has a similar problem,[1] the reasons being quite parallel to those in this country. A generation or two ago, a capable physician could make a fair living in a country district, provide the essential comforts, and lay aside something for the future. At the present time, however, no matter how energetic or persevering the physician may be, country practice presents unusual

1. Brit. M. J., Supp., April 21, 1923, pp. 117-119.

difficulties. Formerly, the country physician attended all classes of people in the community, the rich man and his family as well as his servants and dependents; at present, however, with the greatly improved means of transportation, the wealthy country people have fallen into the habit of going to cities for their various necessities, and in case of illness go to the city physician or are sent to the hospital in the city.

Formerly, the difficulties under which the physician practiced and the cost of living were less in the country than in the city. Now, the conditions have been reversed, and the country physician must pay for the taxes and up-keep of one or two automobiles, and expend a large amount of time in visiting his widely scattered patients, while the city physician is in easy walking distance, or has the use of the street-cars and can visit many patients where the country practitioner sees one. Schools in the country are usually of grammar school grade, and in order to give his children the benefits of better education, the physician must employ tutors or send his children to private schools, high schools and colleges in distant towns or cities. Opportunities for financial income from public sources, appointments, salaried positions, and similar emoluments are fewer or lacking in the country, as compared with cities. The country physician cannot establish regular hours, but must answer calls as they come, and must see at any time the patient who may have come many miles to see him. The very difficulties under which the country physician works, and the essential expenditure of a large proportion of time in caring for a few patients, also make it difficult for him to do the essential reading and keep up to date educationally and professionally. The very influences that are causing country physicians to lose patients are directly to the advantage of the city physician. However hard he may work, the country physician is held within rigid limitations. Some figures in the article quoted show that of ninety-four country physicians, the average number of patients cared for was 629, and the average income was about $1,500; of 219 semiurban physicians, the average number of persons cared for was 1,263, and the average income about $3,000, while it was stated that the average income of physicians in large towns was estimated at approximately $4,500. The author states as an inevitable result that "the good men will not go into country practice."

The reasons for the scarcity of physicians in rural England, therefore, are identical with those in the United States, and the solution will largely need to be worked out in a similar manner. Physicians will not go to localities where they cannot make a fair livelihood without undue hardships. In this country the problem will be met by guaranties of income by citizens of the community or, as has just been provided by legislative enactment in New Hampshire, the taxing of citizens of any town to support a resident physician. In England, as shown by the author's suggestions, modifications of the national insurance acts may relieve the situation by making more generous financial provision in mileage and other allowances for the country practitioner.

FAMINE AND THE INCIDENCE OF COMMUNICABLE DISEASE

Famine, pestilence and war are three of the "Four Horsemen of the Apocalypse." With increasing malnutrition there is a greater incidence of morbidity and mortality. Severe as these sequels of national underfeeding have been, statistics from famine-swept Russia show that conditions have been underestimated, rather than overestimated. Cheinisse,[1] quoting the report of Tarassévitch [2] of Moscow to the Health Section of the League of Nations, states that from 1918 to 1921 there were, in Russia, from twenty-five to thirty million cases of exanthematous typhus—about one fifth of the total population—and that deaths from this cause were between two and one-half and three millions. Furthermore, Zlatogorov, Fedorov, Martzinovsky, Lubarsky and others note that famine adds grave trophic complications to the disease, among which are gangrene of the lower extremities and tendency to hemorrhage.

As testimony of the evil effect of malnutrition in regard to epidemic disease in Russia, Professor Otto [3] of Germany presented this motion at the meeting of the Health Section of the League of Nations held at Warsaw, March 22, 1922:

> The European Health Conference lays especial stress on the necessity for supporting health measures to be undertaken in Russia and the Ukraine by a campaign against famine, which is one of the chief causes of the epidemics, and invites all nations to take part in this campaign, without which efficient measures against the epidemics are impossible.

The resolution was adopted unanimously, showing that those who had studied conditions at first hand held no doubt as to the importance which normal nutrition plays in regard to the incidence of disease. The report continues:

> Of all countries in eastern Europe, Russia has suffered most from epidemics during the last four years, during which time about seven million cases of typhus and relapsing fever were officially reported, without counting the figures for the Red army. The culminating point was reached in 1919 and 1920, when 4,917,000 cases of typhus and 1,259,500 of relapsing fever were officially recorded. The official figures, however, do not represent the total incidence, and must be multiplied by at least two and one-half in order to obtain an approximate picture of the situation. . . . Reported cases of typhus and relapsing fever were, for October, 1922, 14,578 and 29,258; for January, 1923, 87,742 and 89,535, respectively. . . . The cholera epidemic, which broke out in 1921, when 176,885 cases were officially reported, has proved the most deadly visitation for many years. In 1922, cholera reappeared in spite of the severity of the winter, in twenty-one different districts of the Ukraine and in Soviet Russia. . . . It is not usually realized that absolute famine, or conditions approaching famine are now (March 22, 1922) involving

1. Cheinisse, L.: La famine et les maladies infectieuses, Presse méd. **31**: 681 (April 25) 1923.
2. Tarassévitch, L. A.: Report of European Health Conference, Geneva, April 3, 1922, p. 27.
3. Otto: Centralbl. f. Bakteriol. I Ref. **74**: 1, 1922.

8,000,000 of the inhabitants of southern Ukraine, and that there is, so far, no provision made to provide food from abroad, and that local resources are nearing an end.

It needs no further emphasis to indicate that disease in epidemic form makes grave inroads on underfed bodies: more grave than we have hitherto acknowledged. As to the course and symptomatology of recurrent fever, Cheinisse states that, in addition to the augmentation of the number of cases, the duration of the febrile period is longer (from six to ten days), and that the number of attacks has risen to from six to sixteen.

The only dissenting voice as to the view that famine predisposes to epidemic diseases is that of Sternberg,[4] who holds that with the exception of dysentery and measles there has been no increase due to famine conditions. Sternberg, in addition to his general denial, particularizes as to tuberculosis, and as explanation for his assertion that this disease is also unaffected by famine, advances a theory based on endocrinology and having as its key the assumption that in conditions of malnutrition a state of hypothyroidism exists, and that this condition is less favorable for the development of the disease than that of hyperthyroidism, which is normally present in the young adults who are most susceptible to the disease.

Alone in his contention, he is vigorously attacked by Dr. V. M. Kogan, one of the editors of the Russian journal *Vratchebnoïé Dêlo,* and Dr. M. I. Lifchitz, professor of the medical faculty of Kharkov, who maintain not only that his theoretical reasoning is not well based, but also that the experience of all Russian physicians who have had personal contact with conditions proves him wrong. They both state that, under conditions of bad feeding, chronic tuberculosis, usually relatively benign, takes on an acute form with death in two or three months. They further state that there is much greater frequency in the occurrence of the acute miliary type and an increase in the rarer varieties, such as multiple localizations on the various serous surfaces, and granular phthisis with fatal issue prior to the miliary stage. They also note an increase in the frequency of intestinal tuberculosis and the involvement of the mesenteric glands and the peritoneum. Confirmation comes also from Bruns,[5] who, in investigating the living conditions of the city of Trier, Germany, found that nutrition played a responsible part in the incidence of the disease.

Regardless of the academic conclusions of Sternberg, based on a perhaps ingenious, but doubtfully sustained hypothesis, the definite fact remains that those who are well nourished have a higher factor of safety as regards disease, epidemic or otherwise, than those who are at a low vital ebb. But we do not seem to have realized, thus far, that starvation can assume such overwhelming proportions as a predisposing factor to epidemic disease as it has done, and is doing, in war-torn, famine-swept Russia.

4. Sternberg, A.: Deutsch. med. Wchnschr. **48**: 581 (May 5) 1922.
5. Bruns, E. H.: Report on the Economic Conditions of the Poorer Population of the City of Trier as Determined by House to House Visits, Mil. Surgeon **46**: 418 (April) 1920.

Current Comment

THE PROGRESS OF RESEARCH

This week THE JOURNAL publishes the results of the clinical tests with ethylene made at the Presbyterian Hospital, Chicago, under the direction of Drs. Luckhardt and Carter.[1] The evidence seems to indicate that, properly administered, ethylene presents a real advance over other gaseous anesthetics. As the investigators point out, anesthesia has been induced with rapidity and ease, and many of the unpleasant symptoms and sequelae of other types of anesthesia have been absent. It is interesting, in view of these results, to reflect on a parallelism between the manner of development of this product and of insulin. In each instance previous workers had studied the problem, but in each instance also had stopped far short of the necessary experimentation to yield a practical result. It is apparent that Zuelzer, Steiner, and even Minkowski and Mering, as well as many others, might have continued their researches and eventually have reached the discovery achieved by Banting. As was noted in THE JOURNAL last week, Herrmann, Davy, Miller, Eulenberg and Lüssem had experimented with ethylene, but none of them had carried the work forward to the point at which its actual practical value was demonstrated. After all, this is what makes the romance of research. And it displays, too, the greatest attribute necessary for the successful research worker—the vision to see beyond the facts.

OAT-SEEDS AS A CAUSE OF FOREIGN-BODY TUBERCLES

Professor Marnoch of the University of Aberdeen performed an exploratory laparotomy for an acute attack of pain, preceded by discomfort in the upper part of the abdomen of several months' duration. He found an eruption of pink nodules on the visceral peritoneum, mostly over the pyloric end of the stomach. No acute inflammation was present, and the nodules were thought to be tuberculous. It was noted, however, that their distribution and consistency were unusual, and several were clipped off and sent to the pathologic department for investigation. The specimens, thus obtained, were prepared in the usual manner for study. Microscopic examination disclosed[2] that the nodules were made up of granulation tissue which was partly young, vascular, almost myxomatous connective tissue with occasional mononuclear and polymorphonuclear leukocytes, and partly more cellular areas enclosing fragments of some vegetable substance, the longest of which was 1 mm. in length. Giant cells, some with sixty nuclei, were closely applied to the fragments. Identification of this foreign material was

1. Luckhardt, A. B., and Carter, J. B.: Ethylene as a Gas Anesthetic, J. A. M. A., this issue, p. 1440.
2. Shennan, Theodore: Foreign-Body Tubercles on Serous Coat of Stomach, Caused by Escape of Particles of Oat-Seed, J. Path. & Bacteriol. **26**: 82 (Jan.) 1923.

difficult. It was found from collections in the botany department of the university that sections of grains of wheat and sections from the pathologic material were closely similar. All of the commoner cereals—wheat, oats, rye, barley, maize—were then prepared as the surgical specimen had been, cut in series and mounted. Thus, by comparison, it was demonstrated that the vegetable fragments from the abdominal tubercles had come from grains of oats. It could not be determined, however, when or how the oats had been transplanted from the mucous to the serous surface of the stomach. The assumption was that it had occurred through a small perforation which healed quickly and without much local reaction. The patient lived in northeastern Scotland, where oatmeal is a common food. Any foreign body embedded in the tissues stirs up the same response. The tuberculization of fragments of oats in the abdominal cavity, however, appears to be an extraordinary observation.

SPICES

Of all the flavors that tantalize the palate of man, none are so fragrant in their appeal to taste, to odor and to every sensation of pleasure as the spices, and it is not strange to read in a recent account of the growth and development of the spice trade that they were used by man in the earliest times. "When Alaric, the Goth," says LaWall,[1] "conquered Rome in 410 A. D., one of the ransoms asked by him was 3,000 pounds of pepper, then worth more than its weight in gold." In that period, caravan and ship carried ever as a part of their burden a certain quantity of "spices, gross spices or groceries, as well as minor spices." In fact, the first organization of dealers was known as "the fraternity of pepperers," and it was in the fourteenth century that the name was changed to "the Guild of Grocers," which depicted on its coat of arms six cloves. When Venice was at the peak of affluence, its trade in spices amounted to approximately ten million dollars annually. The name of Vasco da Gama has long been known as that of a famous sea-fighter, and it is interesting to know that one of his most important voyages was made to secure a cargo of pepper, cinnamon and ginger from India. When he returned from his voyage, which required almost two years to carry on, he was presented with remarkable emoluments for his courage, for he had paid to his supporters a sixty-fold profit. The war for supremacy between Venice and Portugal in this trade led da Gama to perform those cruelties in warfare which have made his name stand as the very symbol of terrific vengeance. In his consideration, Dr. LaWall traces the development of the trade in spices, how it passed from the Portuguese to the Dutch, and from the Dutch to the Germans and English and, in the latter part of the sixteenth century, how the famous freebooters Drake, Hawkins, Granville and Oxenham harassed the homeward bound spice ships of the king of Spain. The account is concluded with a list of the common spices now employed, more than thirty in number. A few almost priceless spices which were the treasures of the middle ages have thus developed into an extensive list which are sold in pounds instead of ounces in groceries and markets, and which are the common household commodity. A mere list of their names provokes pleasant thoughts and fragrant memories—allspice and cinnamon, nutmeg and anise, coriander and marjoram, mace and dill, mustard and ginger, sage and thyme, savory and paradise.

1. LaWall, C. H.: The Romance of Spices, Am. J. Pharmacy, April, 1923.

WHAT MILWAUKEE—AND SOME OTHER PLACES—THINK OF ABRAMSISM

At a largely attended regular meeting of the Medical Society of Milwaukee County, held, May 10, Dr. G. E. Seaman offered the following motion:

"That the entire Abrams method is such a palpable fraud that this Society considers it beneath its dignity to appoint a Committee to investigate it, and that the pursuit of the Abrams method on the part of any member of this Society shall be considered inconsistent with membership in this Society."

The motion was carried without a dissenting vote. Two or three weeks ago, THE JOURNAL published a resolution printed in the *Bulletin* of the Los Angeles County Medical Association, in which that society went on record as declaring that the "Abrams method of diagnosis is a fraud" and that any physician who practiced the method was ineligible to membership in the association, and that any member of the association who practiced the method would have charges of unethical conduct preferred against him. As a result of this editorial note we have received a brief letter from Dr. W. B. Moore, the secretary of the Harrison County (Ky.) Medical Society, reading in part:

"I wish to state that the Harrison County Medical Society expelled two of its members March 5 for practicing this fraud. This is the first instance I have noticed of a doctor being expelled from his society for such unethical conduct."

In this connection, it may be of interest to recall the fact that last January the Tulsa County (Okla.) Medical Society expelled two of its members who were local exponents of the Abrams methods. More than a year and a half ago the Massachusetts Medical Society called for the resignation of one of its members who was an Abramsite, and about a year ago the same individual had his license to practice medicine revoked by the Massachusetts Board of Registration in Medicine on the charge that he was guilty of deceit, malpractice and gross misconduct in the practice of his profession in that he had treated a young man by the so-called Abrams [1] method.

1. A reprint of the matter that has appeared in THE JOURNAL on the Abrams vagaries will be sent on receipt of four cents in stamps.

The Schick Test in Mexico and Uruguay.—In a group of 1,603 Mexicans of all ages up to 55 years, O. Rojas Avendaño secured positive results with the Schick test in 816, i. e., 50.9 per cent. There were 447 protein pseudoreactions. Among children 2 to 4 years old the proportion of positive tests was 69 per cent. M. Ponce de León used the test in 307 persons in Montevideo, with results very similar to those obtained by Park and Zingher in New York City. Up to the age of 15 years, there was an average of 77 per cent. negative tests. Only in people over 40 years was there found 100 per cent. negative tests.

Association News

THE SAN FRANCISCO SESSION

Fraternity Banquets

The Phi Rho Sigma Fraternity will have a banquet at the St. Francis Hotel at 6:30 p. m., Wednesday, June 27. The dinner will be over in time to allow Fellows to attend the President's reception later in the evening. Dr. Charles E. French, 749 Flood Building, San Francisco, is the chairman of the committee. Information about this banquet can be secured from him.

Nu Sigma Nu will have a forty-niners' banquet for local and visiting Fellows at the Bohemian Club on the evening of June 28. A special entertainment is being provided. Dr. H. D. Crall, 1242 A Second Avenue, San Francisco, is the chairman of the Nu Sigma Nu Committee.

Special Trains

Southern Medical Association Train: The Southern Medical Association will operate a train to San Francisco to be known as "Our President's Special." This train will start from St. Louis and will go by way of Kansas City, Colorado Springs and Salt Lake City, leaving St. Louis at 9 a. m. Tuesday, June 19. A part of Wednesday, June 20, and a part of Thursday, June 21, will be spent at Colorado Springs. Salt Lake City will be reached at 12:25 p. m., Friday, June 22, and departure for San Francisco will be at 11:40 a. m., Saturday, June 23. Information about this train can be secured by addressing the Southern Medical Association, Birmingham, Ala.

Special Train from Seattle: A special train will be operated over the Union Pacific for the accommodation of members and visitors to the meeting of the Pacific Northwest Medical Association to be held in Seattle, June 19-21. This train will leave Seattle at 9:30 a. m., June 22, Portland at 5:30 p. m., June 22, and is timed to arrive in San Francisco at 7 p. m., June 23. While in Portland, the party will be entertained by the Portland members of the Pacific Northwest Medical Association. Dr. F. R. Underwood of Seattle is the chairman of the transportation committee, and can be communicated with for information concerning this train.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

State Society Forwards Resolution.—At the annual session of the Alabama State Medical Association, April 17-20, a resolution was passed addressed to the director of the U. S. Veterans' Bureau, requesting that action be taken regarding the discontinuance of placing new trainees in chiropractic. A resolution was also passed commending the activities and policies of the U. S. Veterans' Bureau in general.

Colored Staff at Veterans' Bureau Hospital.—The entire staff of the U. S. Veterans' Bureau Hospital at Tuskegee will be composed of colored men and women. The U. S. Civil Service announces examinations for these positions. Applications should be addressed to the secretary, Fifth U. S. Civil Service District, Post Office, Atlanta, Ga. Fifteen general physicians, salaries up to $3,250 a year, and eighteen specialists, particularly in neuropsychiatry and tuberculosis, salaries up to $5,500 a year, will be appointed for service at the hospital, the capacity of which will be about 600 beds.

ARKANSAS

Physician Fined.—It is reported that Dr. J. Wesley Cunningham, Little Rock, was fined $1,000 and sentenced to two years in the penitentiary, following conviction by a jury in the federal court, April 25, for violation of the Harrison Narcotic Law.

State Medical Meeting.—At the forty-eighth annual convention of the Arkansas Medical Society, at Hot Springs, May 2-4, the following officers were elected for the ensuing year: president, Dr. William T. Wootton, Hot Springs; vice presidents, Dr. Jesse C. Graves, Lockesburg, and Dr. James O. Rush, Forrest City; secretary, Dr. William R. Bathurst, Little Rock, and treasurer, Dr. Robert L. Saxon, Little Rock. Fayetteville was unanimously selected for the 1924 convention.

CALIFORNIA

Governor Vetoes Bill Regulating Quack Advertising.—The bill making it unlawful for any person to use the words, letters or title of doctor, unless such letters or titles are accompanied by the degree on which his title is based, with the name of the school that conferred it, recently passed by the senate and assembly (THE JOURNAL, April 28, 1923, p. 1249), has been vetoed by Governor Richardson. The governor held, that, although the bill is designed to protect the public against fake advertising, its language is involved and ambiguous.

Hospital News.—The present Lodi Hospital, Lodi, will be torn down to make room for an office building. A new hospital will be erected at a cost of $75,000.——A two-story addition will be erected by the Burbank Hospital in the near future with a fifty bed capacity.——Ground for the new San Antonio Community Hospital, to be erected at Upland, was broken, April 3. The hospital, which will cost approximately $150,000, was made possible chiefly by the late Mrs. J. L. Paul, whose original donation of $75,000 has been augmented by other gifts.

CONNECTICUT

Yale University School of Nursing.—Miss Annie W. Goodrich of Teachers College, Columbia University, New York, has been appointed dean of the new Yale University School of Nursing, New Haven (THE JOURNAL, April 28, p. 1249). Miss Goodrich was recently awarded the Distinguished Service Medal by the War Department.

Old Medical Societies Meet.—The one hundred and thirty-ninth annual meeting of the New Haven County Medical Society was held, April 26. President Charles H. Brown, Waterbury, spoke on cancer.——At the one hundred and thirty-first annual meeting of the Middlesex County Medical Association, at Middletown, April 12, Dr. F. T. Fitch was elected president, to succeed Dr. James H. Kingman.——The one hundred and thirtieth meeting of the Windham County Medical Society was held at Willimantic, April 19. Dr. Stanley H. Osborn, Hartford, spoke on "The Practicing Physician and Preventive Medicine."

ILLINOIS

Hospital News.—Work will soon be started on the new wing of St. Francis Hospital, Wilmette, which will have a capacity of 100 beds.——The board of managers of the Illinois State Baptists has voted to accept the offer to take over the Allen Sanatorium, Robinson, and make it a Baptist hospital. It will be known as the Allen Baptist Sanatorium.——The Methodists of the Rock River Conference will erect a 100-bed hospital, at a cost of $300,000, in Morrison this summer. It will replace the Globe Hospital.

Personal.—Dr. John A. Lindquist has succeeded Dr. Jay T. Wood as city physician of Springfield. Dr. Wood resigned recently after eight years of service.——Dr. John W. H. Pollard was reappointed public health officer, and Dr. Earl L. Caddick was reappointed director of the public social hygiene clinic of Quincy, recently.——Dr. Amos A. Crooks, Peoria, has been appointed health superintendent of the district composed of Bureau, Stark, Tazewell and Mason counties.——Dr. John E. Lee has been reelected mayor of Venice.——Dr. George T. Palmer, president of the Illinois Tuberculosis Association, gave a public address on tuberculosis at Newton, April 24.——Drs. Andrew D. Miller, Sullivan, and Samuel L. Stevens, Dalton City, were elected president and secretary-treasurer, respectively, of the Moultrie County Medical Society, April 25.

Chicago

Hospital Assumes New Name.—The name of the Hahnemann Hospital of Chicago has been changed by the board of trustees to "The Chicago Memorial Hospital." The board states that the practice and work of the hospital now con-

forms in all respects to that of other approved hospitals of Chicago.

Epidemic of Measles.—The average number of cases of measles increased from thirty-three a day in January to 144 a day during the first ten days of May. The council finance committee, May 10, voted $2,000 for extra quarantine officers to fight the epidemic. The city health commissioner stated that since January 1, 10,836 cases have been reported in Chicago.

Medical Women Incorporate.—The Chicago Council of Medical Women, organized for the purpose of collecting scientific data and promoting fellowship among women practitioners, was granted a charter of incorporation, May 8. Dr. Anna M. Blount, Oak Park, was elected first president of the council, which is limited to seventy-five members, and Dr. Lena K. Sadler, secretary.

Personal.—Dr. George W. Hoover, for the past nine years chief of the Chicago district of the U. S. Department of Agriculture, has been appointed chemist in charge of the drug control of the United States, it was announced, April 20.——Dr. Cassius C. Rogers discussed the treatment of cranial and intracranial lesions, before the Lee County Medical Society, April 10, at Dixon.——Dr. Dean D. Lewis addressed the Richmond Surgical Society at Richmond, Va., April 6, on "Some Problems in Peripheral Nerve Surgery."

IOWA

Training for General Practice.—A committee representing the state medical association and other organizations has been named to cooperate with the State University of Iowa College of Medicine, in connection with the new medical school, in planning courses to train physicians for general practice in rural sections of the state. Many rural sections, it is said, have been found to need physicians.

Iowa State Medical Society.—At the seventy-second annual convention of the society, at Ottumwa, May 9-11, Dr. Oliver J. Fay, Des Moines, was elected president for the year 1923-1924. Dr. Frank M. Fuller, Keokuk, was elected president-elect; Drs. Harvey B. Gratiot, Dubuque, and William E. Long, Mason City, vice presidents; Dr. Addison C. Page, Des Moines, treasurer, and Dr. Tom B. Throckmorton, secretary. The next meeting of the society will be held in Des Moines, May 7-9, 1924.

Summary of Recent Health Legislation.—The Iowa Tuberculosis Association and the state medical society prepared a summary of eighteen major and six minor health measures advocated by health workers, which passed the fortieth general assembly. Six proposals altering the present health laws of the state, in a manner deemed detrimental, were defeated or postponed. The physical education bill, which passed, provides that practical health instruction and training shall be given weekly in every school to all children of both sexes and that actual observance of the rules of health shall form part of the grades. A manual of methods will be furnished teachers by the superintendent of public instruction. This bill was supported by the American Legion, the state teachers' association, the state medical society, the state conference of social work, the physical education association and other organizations.

KANSAS

State Medical Meeting.—At the fifty-seventh annual convention of the Kansas Medical Society, at Kansas City, May 2-4, the following officers were elected for the ensuing year: president, Dr. Edwin D. Ebright, Wichita; vice presidents, Dr. Alfred O'Donnell, Ellsworth, Dr. Samuel J. Crumbine, Topeka, and Dr. Hugh Wilkinson, Kansas City; secretary, Dr. John F. Hassig, Kansas City, and treasurer, Dr. George M. Gray, Kansas City. Iola was selected for the next annual session.

Law Creating Commission for the Blind.—The Kansas State Legislature has passed a bill creating a commission for the blind. In addition to the usual responsibilities placed on such commission, the act provides:

> "That it shall be the duty of the commission to cooperate with state and local boards and agencies, both public and private, in preventing the loss of sight, in alleviating the condition of . . . persons with failing sight. The commission shall cooperate with the state and local boards of health, the state and local boards of education, and such other state and local agencies as may be directly or indirectly concerned with the prevention of blindness and the conservation of vision and shall furthermore seek to disseminate information concerning the proper care of the eyes, such information to be prepared in cooperation with the departments which may be concerned."

KENTUCKY

Lexington Physicians Sentenced.—Drs. Elmer Northcutt and Wiley E. McWilliams, both of Lexington, were convicted and sentenced to three years each in the federal prison, Atlanta, Ga., May 12, according to reports. Dr. Northcutt was convicted on four and Dr. McWilliams on five counts for violation of the Harrison Narcotic Law.

MARYLAND

Eudowood Hospital to Expand.—Plans for a campaign to raise $200,000 to increase the capacity of Eudowood Sanatorium, Towson, to be held during the week of May 21, have been formulated by the board of directors. The capacity of the hospital is to be doubled and a department for tuberculous children opened.

McCready Hospital Given to Crisfield.—A deed to the completed McCready Hospital at Crisfield was formally presented to the board of directors, May 6, by Mrs. Caroline Ritt McCready of Chicago. Dr. Thomas S. Cullen announced a gift also of two scholarships by Mrs. McCready; one for $500 to be given to the physician who had done most for the community, the other for $300 to the best nurse.

Personal.—Dr. George Walker, Baltimore, has been awarded the Distinguished Service Medal for services in preventing the spread of disease at the base ports in France during the World War.——Dr. Carl L. Alsberg, director of the Food Research Institute, Stanford University, San Francisco, delivered a lecture on "Economic Aspects of Our Food Supply" before the School of Hygiene and Public Health, Johns Hopkins University, April 16.——Dr. J. W. McCartney of the University of Edinburgh gave an address on "Primary Pneumococcal Peritonitis" before the medical societies of the Johns Hopkins Hospital, May 7.——In commemoration of his eightieth birthday, a dinner was given Dr. Henry M. Hurd, superintendent of the Johns Hopkins Hospital, Baltimore, May 3. Prominent medical men in Baltimore and several distinguished guests from out of town were in attendance.

MASSACHUSETTS

"Quacks" Arrested.—Fred LaPlante was re-arrested on his return from Deer Island, where he completed a fifteen months' sentence for larceny through the sale of quack medicine in Boston. A similar offense was committed in Saugus, according to recent reports.——Dr. Harmon P. McKnight, Somerville, claiming to be a "magnetic physician and osteopath" and a graduate of several medical schools, was arrested on a charge of practicing medicine without a license recently. It was reported that he has served in various penal institutions.

Boston Medical History Club.—At the annual meeting of the club, April 16, the following officers were elected for the ensuing year: president, Dr. John W. Farlow; vice president, Dr. Malcolm Storer, and secretary-treasurer, Dr. John W. Cummin. Dr. Timothy Leary read a paper on "Benjamin Church, Jr., First Surgeon-General of the American Army." Dr. Leary exhibited colonial documents in original and photostat reproduction, also Church's medical notebooks. After the meeting about 300 medical portraits, collected by the late Dr. Ernest B. Young, and recently presented to the library by his family, were displayed.

MICHIGAN

Memorial to Physician.—The new city hospital now under construction at Traverse City on the state hospital grounds will be named the James Decker Munson Hospital, as a memorial to Dr. J. D. Munson, who has been superintendent of the local institution since 1885.

MINNESOTA

Mayo Laboratory Burned.—The new animal experimental laboratory on the estate of Dr. Charles H. Mayo, Rochester, burned to the ground, May 7. The loss is estimated at $150,000.

MISSISSIPPI

State Board Creates Oral Hygiene Division.—The state board of health has created a division of mouth hygiene under the bureau of child welfare. The Mississippi Dental Association has expressed in special resolutions a desire to cooperate in this work.

State Medical Meeting.—At the annual meeting of the Mississippi State Medical Association, at Vicksburg, May 8-9, the following officers were elected for the ensuing year: president, Dr. William A. Dearman, Long Beach; vice presidents, Drs. Lancelot L. Minor, Hollywood, James M. Guthrie, Meridian, and Alvan L. Chapman, Hermanville; secretary, Dr. Thomas M. Dye, Clarksdale, and treasurer, Dr. James M. Buchanan, Meridian.

MISSOURI

Committee for Mental Hygiene.—The psychiatric clinic, inaugurated about a year ago at St. Louis by the National Committee for Mental Hygiene, was formally taken over by director of public welfare, Nelson Cunliff, May 1, when it became a city institution. Dr. William L. Nelson has been appointed chief psychiatric clinic director.

National University Extension Association.—At the annual meeting of the association in St. Louis, which closed, April 21, the following officers were elected for the ensuing year: president, Prof. Richard R. Price, University of Minnesota, Minneapolis; vice president, Prof. Frederick W. Shipley, Washington University, St. Louis, and secretary-treasurer, Prof. James A. Moyer, Massachusetts department of education, division of university extension, Boston. Madison, Wis., was selected for the next annual meeting.

NEBRASKA

Hospital News.—The West Nebraska Methodist Hospital, Scottsbluff, which is under construction, will be ready for occupancy this fall. Its capacity will be 100 beds.——A clinic on "Asthma" was held at St. Clara's Hospital, Lincoln, under the auspices of the Logan County Medical Society, April 19. Drs. Burton D. Haseltine and Alvin W. LaForge, both of Chicago, addressed the meeting.

NEVADA

State Association News.—The next annual meeting of the Nevada State Medical Association will be held at Reno, September 28-30, or thereabouts, the secretary announces. Popular vote was taken as to whether it should be held in June or October. The *California State Journal of Medicine* is now the official journal of the Nevada State Medical Association following a vote at the recent Elko meeting. Subscriptions of $2 for one year should be sent to Dr. W. E. Musgrave, 1016 Balboa Building, San Francisco.

Legislative News.—The public hospital bill has been signed by the governor. Under the new law 25 per cent. of the taxpayers in any county that wants a public hospital can present a petition to the commissioners, who will put the question on the ballot at the next general election. If the question carries, the commissioners will immediately proceed to provide the hospital. The nurses' registration bill also become a law. Graduate nurses and all other nurses that have had twenty-eight months' training in a Nevada hospital, under the direction of a physician licensed in that state, are entitled to register without examination, provided they do so by July 1.

NEW HAMPSHIRE

Orphan's Home Burned.—Two buildings of the New Hampshire Orphan's Home, Franklin, were destroyed by fire recently. The loss is estimated at $60,000.

Appropriations for Physicians in Small Towns.—The New Hampshire legislature has recently passed a law which permits any town to raise money toward the support of a resident physician which, in the absence of such appropriation, could not obtain one. The act became effective, April 5.

NEW JERSEY

Personal.—Dr. Henry A. Cotton, medical director of the State Hospital for the Insane, Trenton, has accepted the invitation of the British Medico-Psychological Society to deliver an address in London before the annual convention in July.

Physician Arrested.—According to reports, the New Jersey State Board of Medical Examiners revoked the license to practice medicine of Dr. James F. Kerr, Newark, November, 1922, following his conviction on a charge of performing an abortion. Dr. Kerr, who was recently in jail, was held in $3,000 bail, May 5, on a charge of performing an illegal operation, March 24.

NEW MEXICO

School for Health Officers.—The New Mexico State Bureau of Health proposes to conduct a four weeks' course of intensive instruction for health officers in order to qualify them for full-time county positions. The course will be given provided there are enough entrants to justify the time and expense. It is expected to follow the annual meeting of the state medical society, June 25.

NEW YORK

State Aids Veterans.—The New York State Senate passed the Kleinfeld bill, which provides $1,000,000 for the relief of sick and disabled veterans of the World War. A similar $1,000,000 fund under which veterans' aid has been given has just been exhausted.

Legislation.—It is reported that the chiropractic bill and the Lattin medical practice bill are "dead" for this session of the legislature. The Bloch narcotic bill has not been endorsed by the governor. There are indications that a new commission will be appointed to study the narcotic situation and to make recommendations to the next legislature.

"Bootleg Pharmacies" Hit.—The Twombey-Lattin bill to place the ownership of drug stores in New York state with licensed pharmacists was recently signed by Governor Smith. This bill, which received the approval of the Medical Society of the County of New York and of the state pharmaceutical association, restricts ownership of drug stores to licensed pharmacists only. It is hoped the measure will do away with so-called "bootleg pharmacies."

Glen Cove Must Pay Health Officer.—The Appellate Division has awarded a mandamus to Dr. Joseph B. Conolly, compelling the finance commissioner to pay him his salary as health officer of the City of Glen Cove, from which certain officials attempted to oust him in 1922. The Supreme Court had refused him a mandamus, but the Appellate Division reversed that decision, holding that Dr. Conolly took a competitive examination and is an employee under civil service rules and not a "public official."

Model Milk Ordinance.—The Albany Common Council held a public hearing on the question of the adoption of the model milk ordinance for cities as recommended by the state department of health, and the New York State Conference of Mayors, May 7. This model ordinance eliminates all Grade C milk and prohibits the sale of Grade B raw milk. It permits the sale of Grade B pasteurized milk, certified milk and Grade A raw and pasteurized milk. The ordinance also forbids the sale of dipped milk, requiring that all milk be sold in bottles, filled and capped at the place of production or at the collecting and distributing station. The Albany Medical Society passed a resolution that Albany be the first to adopt the model milk ordinance.

New York City

Chair of Nursing Endowed at Columbia.—Through the foundation of a chair of nursing by Mrs. Helen Hartley Jenkins of New York, Miss Adelaide Nutting has been made professor of nursing at Teachers College, Columbia University. This is reported to be the first endowment of its kind.

Cancer Institute for City's Poor.—The New York Cancer Institute will be established by the commissioner of public welfare, for the exclusive treatment of cancer among the city's poor. The hospital division of the institute will be located in a set of buildings of the City Hospital on Blackwell's Island, where accommodations will be available for 200 patients. The clinical division will be located on Fifty-Ninth Street temporarily, but within two months will be housed in a home of its own, it is stated. The cost of installing the roentgen-ray machines and radium emanation laboratories will be borne by several prominent citizens. Dr. Isaac Levin, clinical professor of cancer research at the New York University, has been appointed medical director of the cancer institute.

Annual Report of Committee.—According to the annual report of the public health committee of the New York Academy of Medicine, there is a shortage of hospital beds in New York for the treatment of neurologic and mental diseases, and the state hospitals are overcrowded to a degree that should not be tolerated. The report covers many subjects, among which are: the prophylactic value of pneumonia vaccines; spread of tuberculosis among families by domestics; disposal of city waste; automobile exhaust gas; anthrax; housing and transportation; prolonged neglect of proper sewage disposal; more sources for the city's water

supply; child health; measurement of growth of children; codification of child welfare laws; continued study of communicable diseases in hospitals; hospital information bureau; continuous collection of hospital statistics; relation of the community to hospitals; scrutiny of city's budget dealing with health and hospitals; supplying lists of expert examiners to civil service commissioner; rebates to physicians; legislation on health and medical education, and other subjects.

NORTH CAROLINA

"State Medicine" Defined.—At the annual meeting of the state medical society in Asheville, recently, the term "state medicine" was defined (when the report of the committee of public health administration was formally accepted) as any practice or policy provided for in the legislative acts of a state which has to do with the prevention or treatment of disease, and which may roughly include the following:

Legislation which determines who shall and who shall not be permitted to treat disease and which prescribes the conditions under which a person may practice medicine; which provides for the education of the general public in matters of personal and public hygiene; which provides public laboratories for assisting the profession in the diagnosis of specimens; which provides for the immunization by vaccines and serums of the general public against infectious diseases; which provides for the reporting of births, deaths and communicable diseases and prescribes measures for the restriction of the spread of contagion; which provides institutional treatment for the delinquent, the defective and the diseased; which provides for the physical examination of school-children, and which provides for health insurance and for panels of physicians who are paid out of the public funds at rates fixed by the state.

OHIO

Child Welfare Campaign.—A special "Save the Babies" child welfare campaign was held in Dayton, May 7-12, at which examination of babies under 2 years of age was held daily at the division of health. A health bulletin was issued giving information on prenatal and infant care, which will be mailed free each month on request.

Dr. Brock Wins Golf Tournament.—Dr. Lucian L. Brock, Washington, won the president's silver championship golf trophy at the Ohio Medical Golf Association Tournament at Dayton, during the annual meeting of the state medical association. A silver mounted cane was also awarded to Dr. Brock for being among the four players turning in the lowest scores for thirty-six holes from a field of 104 players.

Chiropractors Fined.—According to reports, C. E. Schillig, Willard, secretary of the state chiropractors, was fined $100 and costs by Judge Lutts, at Norwalk, May 1, for practicing medicine without a license. Schillig refused to pay and was committed to jail.——Five Zanesville chiropractors, Marcus Hull, W. F. Stiers, L. O. West, J. T. Brooks and A. A. Crabbe, were fined $50 and costs, each, April 30, for practicing medicine without a license. Three went to jail in preference to paying the fine.

Personal.—Dr. N. C. Yarian was recently elected president of the Cleveland Society of Industrial Physicians.—Dr. Frank E. Bunts, professor of surgery, Western Reserve Medical College, Cleveland, spoke on "A Consideration of Diseases of the Breast, Based on a Study of 1,250 Cases," before the Wayne County Medical Society, Detroit, May 7.——Dr. Edward W. Misamore has been appointed city health officer of Findlay.——Dr. William G. Rhoten, Hillsboro, for the last three years district health commissioner of Highland County, has assumed the same position in Hocking County and the city of Logan.——Dr. Albert D. DeHaven has been elected mayor of Xenia.——Albert P. Mathews, Ph.D., professor of biochemistry, University of Cincinnati College of Medicine, has been granted leave of absence to attend the Pasteur centenary in Paris and Strasbourg as a delegate from the university. Dr. Mathews has been appointed one of the twelve delegates from the United States to the International Union of Pure and Applied Chemistry to be held in Cambridge, England; he will also attend the International Congress of Physiology in Edinburgh in July.——Robert C. Walker has been appointed to the Seely Teaching Fellowship in Medicine at the University of Cincinnati College of Medicine, for the next school year.——Dr. David I. Wolfstein has resigned as professor of psychiatry, University of Cincinnati College of Medicine, because of ill health.

OKLAHOMA

Addition to Soldiers' Memorial Hospital.—Work will be started at once on the construction of the new personnel building for the Oklahoma Soldiers' Memorial Hospital, Muskogee.

PENNSYLVANIA

Course for Health Officers.—Col. P. M. Ashburn, commandant of the Army Medical School at Carlisle Barracks, will conduct a six weeks' course in sanitation, at the request of the state health commissioner, for health officers attached to the state department. This instruction is in line with the plan the health commissioner expects to follow in the larger counties of the state, where full-time district sanitary officers, properly trained in public health work, will be assigned.

Chiropractic Bills.—The Dunn bill, to regulate the practice of chiropractic and to provide for licensing by a board of examiners, failed in the house after nearly two hours' debate. The vote was 82 to 78.——Senator Joyce, Luzerne, has presented a bill to the state legislature to create a board of chiropractic examiners consisting of three members who would have power to issue and revoke chiropractors' licenses. The bill also provides that persons who have been practicing chiropractic for two or more years, would be licensed without taking a state examination on payment of a fee of $20.

Hospital News.—Plans have been approved and bids requested for the Luzerne County Hospital, the estimated cost of which is $1,000,000.——The Conemaugh Valley Memorial Hospital, Johnstown, in its recent campaign for $500,000, realized $500,460, in two weeks. Work for enlarging the hospital will be started at once. When completed the institution will accommodate more than 300 patients.——The House appropriations committee recently reported out 118 bills for hospitals and other institutions carrying a total of $5,080,000, which sum is $1,480,000 more than the maximum fixed by the governor in the budget.

Changes in County Hospital Law.—The governor has signed an amendment to the county hospital law, which gives counties the right of eminent domain in acquiring land for tuberculosis hospital purposes, and also gives the hospital board and the county controller joint supervision with the county commissioners in erecting such hospitals. As amended, Section 2 of the county hospital law now reads as follows:

If a majority of the voters on such question at such election shall be in favor of the establishment of the hospital, the county commissioners, *county controller, where such office exists, and the board of trustees, hereafter provided for*, shall have plans and specifications prepared and shall select and acquire a site for such hospital by *purchase or condemnation with the same power and with the like procedure as land is now acquired under existing laws by school districts for school purposes, the county commissioners exercising the authority exercised by school directors for that purpose.* On the approval by the commissioner of health of the plans and specifications and the location of such hospital the hospital shall be constructed and equipped *under the direction and supervision of the board of trustees, the county commissioners, and the county controller, where such office exists*, and in the same manner as other county buildings are constructed and equipped.

Philadelphia

Personal.—In honor of his recent election as provost of the University of Pennsylvania, the alumni of New York City selected Josiah H. Penniman, Ph.D., as their guest of honor at their thirty-fifth annual dinner at the Hotel Pennsylvania, New York, April 7.——Dr. Isaac M. Rubinow, New York, has been appointed executive director of the Jewish Welfare Society, Philadelphia.

Jefferson Alumni Day.—The annual dinner of the alumni association of the Jefferson Medical College will be held at the Bellevue-Stratford, May 31, preceding the ninety-eighth annual commencement, June 1. Dr. Ross V. Patterson, dean of the college, and president of the alumni association, will be toastmaster. The list of speakers include prominent graduates of Jefferson from various parts of the country.

Faculty of Woman's Medical College Reorganized.—Dr. Lida Steward Cogill was named, May 9, to succeed Dr. Alice Weld Tallant as head of the department of obstetrics at the Woman's Medical College of Pennsylvania, Philadelphia. The board of trustees accepted the resignations of the twenty-four professors who resigned as a protest in favor of Dr. Tallant and has made a complete reorganization of the teaching staff. Dr. Rudolph Max Goeppe was appointed to the chair of medicine, to succeed Dr. Arthur A. Stevens. Dr. Walter Estell Lee has been offered the chair of surgery formerly occupied by Dr. Harry C. Deaver.

TEXAS

Chiropractors Petition Governor.—A petition was presented to Governor Neff, April 27, by the president of the state chiropractors' association, requesting the governor to submit to the legislature the creation of a state board of chiropractic examiners. The petition was 3,928 feet long, and contained 67,520 names.

CANADA

Society News.—The next annual meeting of the Canadian Society of Anesthetists will be held in Montreal, June 12-14. ——At the annual meeting of the Academy of Medicine, Toronto, the following officers were elected: president, Dr. John T. Fotheringham; vice president, Dr. John H. McConnell; secretary, Dr. Dennis Jordon, and treasurer, Dr. Harold M. Tovell.

The Cochrane Typhoid Epidemic.—The number of cases of typhoid in the Cochrane epidemic has reached about 820. The death rate has been about 7 per cent. New cases average now one a day, and the emergency hospital has reduced the number of beds by about 25 per cent. The Red Cross Society of Ontario voted $25,000, and, it is reported, the Ontario Provincial Board of Health will increase its financial assistance beyond the $25,000 already spent by the board.

University News.—At a recent meeting of the board of governors of the University of Toronto, Dr. Frederick G. Banting was officially appointed professor in medical research, and arrangements were made for distributing the balance of the money recently voted by the legislature of Ontario for the furtherance of research in the treatment of diabetes.——An insulin clinic will be established in the near future at the University of Alberta Hospital, Edmonton. Dr. J. B. Collip, codiscoverer of insulin and discoverer of glukokinian from vegetable sources, which also has a curative effect on diabetes, is to be the guest of honor at a banquet given by the citizens of Edmonton during "Insulin Week."

Personal.—Dr. Harry G. Grant, who has been conducting the tuberculosis clinic Health Center No. 1, Halifax, since November, 1920, has resigned to teach at Dalhousie University Faculty of Medicine. Dr. Saul H. Keshen has succeeded him.——Dr. Joseph W. Warren, radiologist at Calgary General Hospital, has been appointed radiologist at Jubilee Hospital, Victoria, B. C.——Dr. J. H. Elliott, Toronto, was recently elected vice president of the American Congress of Physicians at a meeting held in Philadelphia. Five other Toronto physicians were elected fellows of the American College of Physicians, as follows: Drs. J. T. Fotheringham, F. G. Banting, Henry C. Wales, George Porter, director of health, Toronto University, C. E. Cooper Cole. Dr. Neal of Peterboro, Ont., was also similarly honored.——Drs. John J. R. Macleod, professor of physiology, University of Toronto, and J. S. Plaskett, director of the Dominion Astrophysical Observatory, Victoria, B. C., were recently made Fellows of the Royal Society of London, England.

GENERAL

American Gastro-Enterological Association.—At the annual meeting of this association, in Atlantic City, N. J., April 30-May 1, the following officers were elected: president, Dr. R. Walter Mills, St. Louis; vice presidents, Drs. David Riesman, Philadelphia, and Arthur F. Chace, New York; secretary, Dr. John Bryant, Boston, and treasurer, Dr. Clement R. Jones, Pittsburgh.

Hospital Day.—The one hundred and third anniversary of the birth of Florence Nightingale was observed, May 12, by the nearly 7,000 hospitals of the United States and Canada, as National Hospital Day. Mr. E. S. Gilmore, of the Wesley Hospital, Chicago, president of the National Methodist Hospital Association, broadcasted a radio message on "The Value of the Hospital." This was the third national observance of Hospital Day.

Maternity Law Suit Opened.—Oral arguments were commenced, May 3, in the U. S. Supreme Court, Washington, D. C., in the case brought by the state of Massachusetts to test the constitutionality of the Sheppard-Towner Maternity Law. The right of the state of Massachusetts to question the validity of the law, in view of its failure to take advantage of the statute, was challenged by the federal government on the grounds of jurisdiction.

Amendment to Narcotic Act.—Amendment of the Jones-Miller Act regulating the importation and exportation of narcotic drugs was proposed by the American Drug Manufacturers' Association at its recent meeting in New York City. The association desires that the act be so amended as to permit the importation and storage of crude opium and of cocoa leaves, in excess of current needs, to provide against any possible emergency, and to permit the American exporter to export narcotics to countries which maintain systematic control of imports of such drugs, even though such countries may not have ratified the International Opium Convention of 1912.

International Society of the History of Medicine.—At a meeting of the permanent committee of the society at Antwerp, April 11, it was voted to hold the Fourth International Congress of the History of Medicine at Geneva, Switzerland, during the third week of July, 1925. The following officers were elected: president, Dr. Charles Greene Cumston, Geneva, formerly of Boston, and secretary general, Dr. A. de Peyer, rue General Dufour, 20, Geneva. Sir D'Arcy Power, London, England, was elected president of honor, and the following physicians, vice presidents of honor: Edward P. Krumbhaar, Philadelphia; J. G. de Lint, Gorinchem, Holland, Tricot Royer, Antwerp; Charles Singer, London.

Expenditures of Rockefeller Foundation.—In the recent report of the Rockefeller Foundation, issued ten years after its charter was granted, May 14, 1913, it is stated that the funds expended during the decade amounted to $76,757,040. While the chartered purpose is stated as "the well-being of mankind throughout the world," the work of the foundation has become chiefly centered on public health and medical education. In carrying out its various activities the foundation has expended all of its income from year to year, and in addition $17,500,000 of its general fund or principal. A further sum of $15,500,000, payable in future years, has been pledged to various medical schools and public health projects. The expenditures are roughly divided as follows:

Medical education	$24,716,859
War relief	22,298,541
Public health	18,188,838
Other philanthropic work	10,445,628
Administration	1,107,174
Total	$76,757,040

American Child Health Association Awards Scholarships.—The association announces that $10,000 has been set aside for twenty-five scholarships and fellowships to be offered to teachers, supervisors and educational executives who have done effective work in health education and who desire to improve their training, in universities, normal schools and colleges. The awards will include fifteen summer school scholarships and traveling expenses for tours of observation to health education demonstration centers. They will be available for the summer sessions in 1923 and for the school year, 1923-1924. Awards for summer schools will be made about June 15. Five $1,000 scholarships and fellowships will be awarded to college graduates now in service as principals or elementary school supervisors; five $500 scholarships, to normal school graduates or college graduates now engaged in classroom teaching, and fifteen $200 scholarships to holders of teachers' certificates engaged in classroom teaching. These amounts are approximate, depending on circumstances. Further details will be furnished on request to the Committee on Teacher Scholarships and Fellowships of the American Child Health Association, 370 Seventh Avenue, New York.

Rockefeller Foundation Fellowships.—During 1922 a total of 226 fellowships were granted by the foundation and its various boards; of these, 79 were fellowships in public health administered by the International Health Board, 22 were under the division of medical education, 63 under the China Medical Board, and 62 were fellowships in physics, chemistry or medicine, supervised by a committee of the National Research Council. These fellowships represent the following countries: United States, 111; Brazil, 20; Czechoslovakia, 16; China, 14; Canada, 12; Poland, 10; Great Britain, 9; Philippine Islands, 4; Austria, Australia, Hungary, Nicaragua and Syria, each 3; Colombia, Japan, Jugoslavia and Siam, each 2; and Ceylon, Costa Rica, Mexico, Mauritius, Norway and Salvador, 1 each. The gift of the foundation for scholarships and fellowships in Germany is considered the most important constructive assistance given that country since the war. It is estimated that 100 fellowships are in active force and that 100 more will be granted during the course of the next six months. Dr. Alonzo E. Taylor of Stanford University School of Medicine, San Francisco, who recently returned from a survey of conditions in medical education in Europe, where he assisted Dr. Richard M. Pearce, Jr., states that supplies, such as animals, instruments, chemicals, and other facilities for medical research, are so difficult to get and so prohibitive in price in Germany that the number of students entering medical schools in that country has diminished to about one fourth the prewar number.

United States District Court Holds Limitations on Liquor Prescriptions Unconstitutional.—So much of the National Prohibition Act and of the act supplemental thereto as undertakes to limit the amount of spirituous and vinous liquor that may be prescribed by a physician for internal use by a single

patient has been declared unconstitutional by Judge John C. Knox of the U. S. District Court, New York City. The decision was rendered in a suit brought by Dr. Samuel W. Lambert to restrain the Commissioner of Internal Revenue, the Federal Prohibition Director for New York and New Jersey, and the U. S. District Attorney for the Southern District of New York from interfering, under color of the acts named, with the complainant's prescribing liquor for his patients in excess of the quantities specified in those acts. Dispatches from Washington, D. C., quote Prohibition Commissioner Haynes as saying that the decision, if upheld, would wreck law enforcement, not only with respect to liquor but also with respect to narcotic drugs, and bring into question the validity of all state laws limiting the right of physicians to prescribe intoxicating liquors in excess of a fixed amount. The government, which will take an appeal to the U. S. Supreme Court, expects that, pending a decision, a stay of execution will be granted. If a stay be granted, there will be no change in the regulations governing the prescribing of liquor by physicians until after the U. S. Supreme Court has rendered its decision which will scarcely be before the spring of 1924, unless in the meantime Congress enacts legislation to meet the situation. If a stay be not granted, special regulations may be put into effect within the jurisdiction of the court by which the recent decision was granted, in order to comply specifically with the decree of that court, and the regulations elsewhere throughout the United States be allowed to remain as they are, pending action by the Supreme Court.

Medical Fellowships of the National Research Council.—These fellowships are supported by joint contributions of the Rockefeller Foundation and the General Education Board and are administered by a special Medical Fellowship Board of the National Research Council (THE JOURNAL, Nov. 25, 1922, p. 1856). The fellowships are open to citizens of both sexes of the United States and Canada who possess an M.D. or a Ph.D. degree, or the equivalent of one of these degrees. They are intended for recent graduates and not for those already professionally established. The basic stipends awarded are $1,800 for unmarried and $2,300 for married fellows per annum. These stipends may be increased when there are other dependents or for other cogent reasons. Awards are made for one year, but fellowships may be renewed. Fellows are chosen at two semi-annual meetings of the Medical Fellowship Board in April and September and applications to receive consideration at these meetings must be filed on or before March 1 and August 1, respectively. Appointments may date from any period subsequent to the board meetings. The fellowships are designed to recruit men and women as medical teachers and investigators. Fellows may choose any branch of medicine or public health for their ultimate career, but at present those candidates, otherwise suitable, will be favored who plan to specialize in one of the preclinical sciences or to approach clinical medicine through temporary identification with one of the sciences. The fellowships are not granted to any institution or university, but the choice of place to work, either in this country or abroad, is left to the fellow, subject to the approval of the Fellowship Board. The appointments are for full-time and no other remunerative or routine work is permitted. The particular individual with whom a fellow wishes to work should, ordinarily, have agreed to accept him, prior to the consideration of his application by the board. Opportunities, but not obligations, for a certain amount of teaching must be available. It is further required that the Fellow be charged no fees or tuition by the institution where he chooses to work. Further particulars concerning these fellowships may be obtained by addressing the Chairman, Board of Medical Fellowships, National Research Council, 1701 Massachusetts Avenue, Washington, D. C.

LATIN AMERICA

Medical Congress in Venezuela.—The organizing committee has already issued the official program for the Fourth Venezuela Medical Congress, at Caracas, Dec. 1-8, 1924. The congress will be divided into three sections: medicine and surgery; pharmacology and natural history, and odontology. The officers of the organizing committee are: Drs. F. A. Risquez, president; David Lobo, vice president, and L. Razetti, secretary.

Lepers Released in Venezuela.—Four lepers were recently discharged as cured from the Cabo Blanco Leper Colony. A library of over 1,000 volumes for the lepers was recently opened, the books being donated by public subscription. Two schools for lepers are also about to be opened. Plans are now being studied for the construction of isolation and convalescent pavilions. Dr. A. Benchetrit is the new head of the leper colonies of Venezuela.

New Public Health Law in Costa Rica.—A law just enacted in Costa Rica centralizes all public health matters in a new department, to be designated the bureau of hygiene and public health. Public health clinics will be organized as soon as possible for the treatment of venereal and skin diseases. Five per cent. of the proceeds of the public lottery will be devoted to the antivenereal campaign. Custom duties are remitted on all antisyphilitic remedies. The organization of local health departments is made compulsory. The public health bureau will also supervise the practice of medicine. Licenses to practice can be granted only by the medical school authorities. The joint practice of medicine and pharmacy by the same person is forbidden. The first undersecretary of public health is Dr. Solón Núnez.

FOREIGN

Medical Congresses at Strasbourg This Summer.—During the exposition to illustrate the advances in science due to Pasteur's discoveries, which will follow the unveiling of the Pasteur monument at Strasbourg, June 1, a number of medical and scientific congresses will be held: June 1, Hygiene and Bacteriology; June 2, Tuberculosis; June 11, Ophthalmology; July 23, Cancer; July 24, Dermatology and Syphilology, and July 26, Leprosy.

Congress of the International Surgical Association.—The sixth congress of the International Surgical Association will be held in London, Tuesday to Friday, July 17-20, 1923, under the chairmanship of Sir William Macewen. The provisional program follows: July 16, meeting of the International Committee, reception at the University of London; Tuesday, July 17, 11 a. m., opening meeting; 2 p. m., papers and discussions on surgery of the endocrine glands; 8 p. m., reception by the president of the association; Wednesday, July 18, 9:30 a. m., papers and discussions on arthroplasty; 2 p. m., operations in various hospitals; 5 p. m., demonstration of anatomic specimens by Prof. Sir Arthur Keith at the Hunterian Museum; 8 p. m., reception by the Lord Mayor; Thursday, July 19, 9:30 a. m., papers and discussions on the remote results of interventions for nerve traumatisms; 11:30 a. m., general assembly; 2 p. m., operations in the hospitals; 4 p. m., reception by the College of Physicians; 8 p. m., reception by the College of Surgeons; Friday, July 20, 9:30 a. m., papers and discussions on serotherapy and shock; 2 p. m., operations in the hospitals; 2 p. m., demonstration of methods of vaccinotherapy by Prof. Sir Almroth Wright at St. Mary's Hospital; 8 p. m., banquet, reservations in advance. All meetings will be held at the headquarters of the Royal Society of Medicine, 1, Wimpole Street, W.1, where those attending the congress may have their mail sent, if desired. The papers to be read at the meeting are being printed and copies will soon be sent out. A committee of women has been appointed to accompany the wives of physicians in their tours about the city and vicinity. After the congress, two separate excursions into the provinces, occupying three days, July 21-23, are planned, one to Oxford-Leamington-Stratford-on-Avon-Warwick, the other to Bournemouth-Lulworth-Isle of Wight. Applications and requests for information should be addressed to Le Secrétaire-Général, Dr. L. Mayer, 72, rue de la Loi, Brussels.

Personal.—Czerny, who has been called the "ferment of pediatrics," recently reached his sixtieth birthday, which was celebrated by the pediatricians of Germany with a festival in the children's clinic at Berlin, of which he is director. A special volume of the *Monatsschrift für Kinderheilkunde* was presented as a *Festschrift*, and he was also presented with a portrait plaque and a fund to defray the expenses of works issued by the clinic. His pioneer work in infant feeding, in nutritional disturbances, in the exudative diathesis and in exact metabolic research in pediatrics is familiar to every physician. He has recently been impressing on pediatricians that their duty to children includes supervision of the training of the child.——Dr. Lozano, professor of surgical pathology at Zaragoza, recently delivered an interchange lecture at Paris, speaking on "Surgery of the Ileocecal Valve, Hydatid Cysts and Brachial Plexus."—Among the Italian professors who reach the age limit this year in their work in the medical faculties are Profs. E. Maragliano, Pio Foa, L. Bianchi and P. Albertoni, all of whom are senators; also Profs. F. Falchi of the eye clinic at Pavia, V. Grassi of the ear clinic at Pisa, and D. Majocchi of the dermatology clinic at

Bologna.——The Société médicale des hôpitaux de Paris recently elected, as corresponding members, Professors Ruitinga and Snapper of Amsterdam, and Gautier and Reh of Geneva.——A prize medal has been endowed in honor of Prof. Hans Horst Meyer of Vienna. It is to be awarded every five years for distinguished work in the domain of theoretical medicine. It was presented for the first time to Meyer himself on the occasion of his recent sixtieth birthday. ——Prof. P. Micheleau of Bordeaux has been awarded the triennial Pirondi prize offered by the Comité médical des Bouches-du-Rhône for his work on "General Pathology and Antisepsis."——Professor Poels recently resigned the charge of the state serum institution at Rotterdam; Dr. H. Klinkert was the spokesman at a meeting to extol his long services and present him with his portrait in oil.——Dr. J. S. Fraser, Edinburgh, recently arrived in this country to deliver lectures before the American Laryngological, Rhinological and Otological Society, and the American Otological Society, at Atlantic City. He also delivered an address before the otological section of the New York Academy of Medicine on "A Plea for an International Investigation into Otosclerosis and Allied Subjects," May 4.

Deaths in Other Countries

Dr. **J. A. Valdés Anciano,** professor of nervous and mental disease at the University of Havana, aged 56. He was a member of the leading neurologic societies in this country, France and Belgium, and had recently been elected corresponding member of the Paris Société médicale des hôpitaux. ——Dr. **Légenne** of Cousolre, France, victim in an automobile accident.——Dr. **C. Tamburini** of Milan, aged 85. He was editor of the *Gazzetta degli ospedali* for many years.—— Dr. **Moritz Probst** of Vienna, noted for his research on the anatomy and physiology of the brain, aged 56. Lewandowsky gave Probst's name to a commissure and a tract in the brain which the latter first described.——Dr. **J. Turin** of Vevey, who took the initiative in the introduction of adenoidectomy and roentgenoscopy into Switzerland, aged 70.—— Dr. **E. Menéndez Tejo** of Besaya, Spain, an authority on balneotherapy.——Dr. **Murga,** a bacteriologist of Seville, who assisted Ferrán in the anticholera campaign in 1885.——Dr. **V. Lafuerza,** professor of anatomy and ophthalmology at the University of Zaragoza.——Dr. **M. Bider** of Basel, a leader in public health work, succumbed to a rapidly fatal epidemic encephalitis.——Dr. **V. D. Madrazzo** of Buenos Aires.——Dr. **Valassopoulo,** physician in charge of the Greek hospital at Alexandria, corresponding member of the Paris Société des hôpitaux.

CORRECTION

Cornerstone of Medical School Laid.—The Cleveland *News,* April 11, from which an item in THE JOURNAL, April 28, p. 1251, was taken, stated that Prof. William T. Corlett of London, England, gave an address at the laying of the cornerstone of the new Western Reserve University Medical School. Dr. Corlett writes that he is a resident of Cleveland.

Government Services

Veterans' Bureau Neuropsychiatric School Graduates

Graduating exercises of the U. S. Veterans' Bureau School of Neuropsychiatry were held at St. Elizabeth's Hospital, Washington, D. C., May 11. The class comprised forty-four physicians. This school was inaugurated by the Veterans' Bureau under the supervision of Dr. F. F. Hutchins to obtain sufficient competent neuropsychiatrists to care for ex-service men. The course of training opened January 15; the lectures, clinics and laboratory work occupied six hours a day; many of the instructors were eminent scientific men, selected with reference to subjects on which they were recognized as authorities. The graduates will be sent to hospitals throughout the country. Abstracts of the lectures given will be compiled into a volume which will be of great assistance to neuropsychiatric hospitals and clinics. There are 9,556 neuropsychiatric cases in Veterans' Bureau hospitals. It is estimated that eventually there will be from twelve to fifteen thousand such cases. In the successful completion of this school at St. Elizabeth's, those who closely followed this unprecedented project believe that something fundamental has been accomplished in psychiatry.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 23, 1923.

Prohibition

The view that prohibition is not acceptable to this country, expressed in a previous letter, is confirmed by the rejection by the House of Commons by an overwhelming majority, of a bill to enforce it. The bill was introduced by Mr. Scrymgeour, the solitary member of the house returned as a prohibitionist. In a speech tinged with religious fervor, he drew a lurid picture of the evils of drink, and twitted the house on its inconsistency in forbidding the saloon to those under 18, and treating it as "a paradise regained" for those above that age. Those engaged in the drink business paid the penalty: they died off more rapidly than those engaged in any other business. The motion in favor of the bill was seconded by Dr. Slater, a physician and member of the labor party. He pointed out that the house had taken strong action against dangerous drugs because they tended to antisocial actions. The position in regard to the drug alcohol was exactly the same. The first effect was to diminish the higher power of self-control. How many members of the house could say that they got a clean bill of ancestral mental health? He knew distinguished men in his own profession who showed all through their lives self-control, complete mental stability, but when they were 50 or 55 succumbed to the alcohol habit. Throughout the population there was a large number of persons as susceptible to alcohol as the majority of people were to morphin and cocain—they could not help becoming slaves to the drug once they started taking it. The members who opposed the bill argued that the English people had been getting more sober for many years. They were in favor of temperance, but it could be better promoted in other ways than by destroying the freedom of the individual. While the evils of drink were to be deplored, medical authorities showed that far more men died from overeating than from overdrinking. What was the good of bringing in prohibition with the example of America before them? Prohibition in that country had produced more corruption than any law introduced there. The way to promote temperance was to improve the saloons and make them open places, like the café system on the continent of Europe. Arrests for drunkenness in twenty-six American cities chosen at random had increased by 4,000 in 1922, as compared with 1918. The bill was rejected by 236 votes to 14. It is noteworthy that only a small number of the labor party, which counts well over 100 members in the house, voted for the bill.

Insulin

At last insulin is for sale. The Medical Research Council announces that insulin may be obtained from certain firms to whom provisional authority has been granted. These firms undertook the manufacture under agreement with the council, and have satisfied all the requirements and tests of the council for authenticity, standard, value, therapeutic efficiency and sterility. In addition, a supply is to be received from the American firm Eli Lilly & Co. The British firms have adopted a method of purification of the final product worked out by Dr. Dudley at the National Institute for Medical Research. By this method it is possible to get rid of more than 90 per cent. of the solid matter in the crude end-product of the original process, so that the active principle is obtained in the form of the hydrochlorid in a highly concentrated form freed from accidental irritants and other substances. Every batch put on sale will be biologically

tested under the supervision of the council. The present price of insulin is 60 cents for 10 units, which is the average dose. It is a watery solution issued in rubber-capped bottles. On the advice of a committee of eminent physicians appointed by the minister of health, manufacturers are directed during the present period of restricted production to supply insulin only to hospitals and registered physicians that have proper facilities at their command for making accurate blood sugar estimations. Each hospital and physician so supplied must undertake to observe these restrictions:

1. Careful correlation will be made of the diet, of the blood sugar changes, and of the insulin dosage in each case. For at least one group of cases it is known already that the insulin dosage can be reduced progressively with suitable adjustment of diet. This reduction allows economy of insulin, besides the advantage it may bring to the patient.
2. Insulin will not be given to those whose symptoms can be controlled by moderate restrictions of diet. There should be no luxury use of insulin till supplies are abundant.
3. It is understood, of course, that in emergency and apart from the careful correlation just mentioned, insulin will be given to those in diabetic coma or those nearly approaching it, and it may be given to those with diabetic symptoms needing special preparation for some surgical operation.
4. Care will be taken to avoid the danger of giving insulin in non-diabetic cases (e. g., to patients with renal glycosuria).

The Octocentenary of St. Bartholomew's Hospital

St. Bartholomew's Hospital, the oldest of the London hospitals, is making great preparations for the celebration, June 5 and the following days, of the eight-hundredth anniversary of its foundation. Like most of the old hospitals of Europe, it is of religious origin and was founded by the Norman monk Rahere in 1123. The celebration will begin by a service in the Priory Church of St. Bartholomew the Great, which still maintains a connection with the hospital. A most imposing pageant will be held in the hospital grounds. It will consist of five processions. The first will be formed by Augustinian canons chanting the ancient hymn used at the foundation of an Augustinian priory. The hospital was controlled by this religious order for the first four centuries of its existence. The second procession will illustrate the return of Rahere from his pilgrimage to Rome. The third procession will show King Henry VIII giving the charter for the refounding of the hospital to the lord mayor and citizens of London. Mr. Arthur Bouchier, the actor, will enact the part of the king. The fourth procession will show a detachment of the Royal Army Medical Corps with an ambulance such as was used in the war. The fifth procession will be formed by the Prince of Wales, accompanied by the officers and staff of the hospital. At the Guildhall the prince, as president of the hospital, will receive congratulatory addresses from delegates nominated by the English-speaking universities and colleges. In the great hall of the hospital, tableaus illustrating various events in the history of the hospital will be produced with appropriate music. The students of the hospital will reproduce the ancient institution of Bartholomew fair as it was in the time of Henry VIII. The old English sports of quarter-staff, wrestling, tumbling and acrobatic performances will be shown. The celebration will be concluded by a meeting of the Rahere lodge of Freemasons.

The Rockefeller Buildings at University College

May 31, the king will open the new Anatomy Institute of University College, London, which has been built by the munificence of the Rockefeller Foundation. The foundation has given $6,000,000 to University College to form an ideal medical school equipped on the most modern lines. Of this, $1,850,000 is for an institute of anatomy and for additions to the staff. The cost of the site, building, equipment and library of the institute is estimated at $950,000, leaving a capital sum of $900,000 to provide $25,000 for additional staff in the anatomy department, $12,500 in the physiology department and $7,500 in other departments. The number of beds at the service of the clinical units recently established at University College Hospital was considered too small, and proper provision was not made for obstetrics. It was therefore decided to build a new obstetric hospital. The Rockefeller Foundation has given $2,000,000 for building operations, and $2,175,000 for maintenance of the medical school. The income of this endowment is to be used for promoting education and research in the medical school, but a sum not exceeding $80,000 a year is to be applied to the upkeep of 120 beds at the service of the medical and surgical units until such time as the money can otherwise be raised, when the income of the endowment will be restored to its original purpose of helping medical education and research.

PARIS

(From Our Regular Correspondent)

April 20, 1923.

University Group in Favor of the League of Nations

There has been founded at Paris a university group so called, in favor of the League of Nations, the purpose of which, as the title indicates, is to disseminate throughout France, and especially among young men with university training, a knowledge of the League of Nations and a love of peace. It is on the generation of young men who will direct the affairs of the France of tomorrow that the university group proposes to bring its influence to bear—by systematic propaganda; through the columns of the press, and by means of publications and also lectures, to be delivered at Paris and in the provinces by men who stand high in authority, and even within the walls of the colleges and universities.

The series of lectures has begun with that of Lord Robert Cecil, who was welcomed by Prof. Paul Appel, rector of the University of Paris. Intellectual cooperation, M. Appel stated, is one of the surest means of bringing about a rapprochement between nations. The rector ended his welcome with the words of Pasteur: "I believe absolutely that science and peace will triumph some day over ignorance and war."

In his address, Lord Robert Cecil emphasized particularly that fraternity or brotherhood is the principle on which is based the existence and the development of the League of Nations. How else can we interpret the aid given Austria in her distress; to Poland on the occasion of the epidemics that threatened it, and to Russia during its great famine?

Extension of Workmen's Compensation Law to Include Agricultural Laborers

A recent decision at law is to the effect that legislation concerning responsibility for industrial accidents is applicable to the workmen, employees and domestics engaged in agricultural pursuits of all kinds, including animal husbandry, training of animals, and all enterprises in which agricultural exploitation is the main object. But the law does not apply to those who ordinarily work alone, or are assisted only by certain near relatives and members of their immediate family, even though they may employ occasionally one or more salaried assistants.

Protection for the Results of Scientific Research

French law protects effectively the rights of authors of literary works, musical composers, painters and sculptors, but this is not true of scientists and inventors. The act of 1844, to be sure, provides for the granting of patents on inventions, but in reality only inventions strictly industrial in their nature come within the scope of this law. No pharmaceutic products or remedies of any kind may be patented. This state of affairs has recently given rise to sharp criticism. It has been emphasized that it is unjust that biologic discoveries and inventions which are of the greatest practical value in

agriculture, in veterinary science and in human medicine, and which occupy today such an important place in pure and applied science, should be deliberately excluded from the benefits of the law respecting letters patent and should become public property from the date of their origin. The question was made the subject of a long discussion at a meeting of the Confederation of Intellectual Workers, and the draft of a law providing for the protection of the rights of scientists has been prepared by a commission. According to this draft, the text of which has been submitted to the chamber of deputies and the League of Nations, the authors of scientific discoveries and inventions shall enjoy, for the duration of their life, the exclusive right of deriving a profit from their invention or discovery. Entitled to protection under this proposed law are: discoveries (that is, demonstrations of the existence of previously unknown principles, bodies, agents or properties of living beings or matter), inventions (that is, creations of the mind consisting of methods, apparatus, products, compositions of products as yet unknown), and, in a general way, all new applications of discoveries and inventions. To establish his right, the author of the discovery or invention must prove that his discovery or invention has been given sufficiently wide publicity. Publication in certain accepted periodicals will be regarded as sufficient publicity. Reproduction for commercial purposes of the name of the author of the published text or of the scientific communication and the bibliographic reference is prohibited, unless the written consent of the author is secured. The authors of inventions and discoveries may not oppose the industrial or commercial exploitation of new applications of their discoveries or inventions, but they will retain an author's rights in any exploitation in which applications of their initial inventions and discoveries have been made. The authors of discoveries or inventions in the domain of therapeutics will participate in the benefits of this law, it being understood that they cannot exploit of themselves their discoveries and inventions unless they hold the diploma of a pharmacist.

Typhoid in Paris

Whereas typhoid has considerably diminished in the large cities of the United States (THE JOURNAL, March 10, 1923, p. 691; March 17, p. 776), the municipal statistics of Paris record, at present, a slight recrudescence of this disease. The Assistance publique has recently published information on this point, from which it appears that the number of new cases rose, during the period from March 30 to April 9, from thirty-seven (the average figure) to sixty-nine. On the other hand, the hospitals of Paris have under treatment at present 148 typhoid patients as against seventy, the usual number. One point is very significant, and that is the sex incidence of the disease. Whereas, in 1913, 978 men and 823 women (a relation of seven men to six women) were affected with the disease, the proportion today is two men to six women. The explanation for this is that, since 1913, antityphoid vaccination has been compulsory in the army, and that almost the totality of the mobilized forces has been given such vaccination.

A New Review of Endocrinology

A new periodical, the *Revue française d'endocrinologie*, to be published under the direction of Professors Lucien and Parisot and Dr. Richard (Nancy), has been announced. This review will appear every two months. The first number will contain, among others, an article by Professor Gley on the history of endocrinology in France, an article by Prof. J. Sabrazès (Bordeaux) on senile dementia and lesions of the suprarenals, and a contribution by Dr. Mauclaire on grafts of endocrine organs.

It is to be hoped that this publication will be able to make a judicious choice in the somewhat encumbered domain of endocrinology. In this field, possibly more than anywhere else, really serious things should not be confused with trivial matters, but that is just what has happened to the *Vie médicale*, which names as the official organs of organotherapy *Endocrinology* and a certain pseudoscientific publication emanating from an American laboratory and sent out in profusion to the physicians on the continent. It is true that the director and proprietor of this laboratory was recently in Paris and was able to gather at a dinner several eminent members of the medical profession, who also took seriously what was not of any particular moment. A recent number of the *Gazette des hôpitaux* contains a letter from the United States, in which Dr. Faxton E. Gardner (New York) makes this statement: "There is a certain laboratory in the United States, which is flooding, copiously and frequently, the physicians of the continent with pseudoscientific propaganda in the interest of their numerous organic products with which all diseases may be treated and cured. It would almost seem as if the human organism were a mechanical device animated or propelled by a group of glands only one of which need be touched in order to unleash the desired effect. The physician, like the electrician standing near an electric display, needs only to push the proper button that is applicable in the particular case with which he is dealing. One may thus arrest a diarrhea, change a feebleminded child into a wide-awake pupil, or give renewed youth to those who have become enfeebled with age."

The Centenary of the Election of Laënnec to the Academy of Medicine

At the last meeting of the Academy of Medicine, Professor Achard, the general secretary, called the attention of the academy to the fact that it was in 1823 (consequently, just 100 years ago) that this learned society admitted Laënnec to membership in the section of medicine. In reality, this anniversary should have been celebrated several months ago, for the election of Laënnec dates from Jan. 14, 1823. However, the illustrious inventor of auscultation did not take a very active part in the work of the academy.

The Fourth International Neurologic Conference

The fourth annual international neurologic conference will be held in Paris, June 8-9, 1923. The following question will be discussed: Compressions of the Medulla Oblongata. The essayists will be (1) from the standpoint of pathogenesis and pathologic anatomy, Drs. James Purves Stewart and George Riddoch (London), and (2) from the standpoint of pathologic physiology, and the clinical and therapeutic aspects, Dr. C. Foix (Paris).

BUDAPEST

(From Our Regular Correspondent)

April 7, 1923.

The Housing Problem

The problem of providing sanitary dwellings for the ever-increasing population of the city of Budapest has caused much anxiety to the authorities. Recently a series of regulations was drawn up by a committee of architects and physicians, and was presented for approval to the building committee of the city council. The principal points were: the fixed minimum to be 1,200 cubic feet of air space for each inhabitant; every inhabited room to have windows admitting direct light and air; the yard of a one-story house to be at least 10 by 6 yards in size; overcrowding (less than the air space minimum) to be prevented by special regulation of subletting; the width of future streets to be not less than 10 yards, or at least equal to the height of the houses; compulsory weekly cleansing of all toilets to be carried out by agents of the landlord, and kitchens to be separated from the

vicinity of the toilets. The proposal of the committee, however, is likely to be rejected by the majority of the city council on account of the exorbitant price of building, and building materials.

Malaria with One Single Symptom: Headache

Dr. Martonfy, who recently returned from imprisonment in Russia, reports a case of malaria without fever occurring during a Siberian winter. The patient was a physician named Lümegi; the only symptom complained of was headache, which appeared each forenoon and lasted a few hours. The patient had had no previous malarial symptoms. Dr. Martonfy did not examine his friend's blood, nor did he suspect the presence of malaria. However, when returning through Moscow, Dr. Martonfy and his patient visited a hospital bacteriologist, who made an examination of the blood. No perfect organisms were found, but numerous malarial spores were present which appeared to be of tertian type; the organisms and the symptoms rapidly disappeared under quinin.

The Dangers of Some New Arsenic Preparations

Dr. Forbath read a communication in the medical union of a large provincial town, in which he brought forward a series of twelve cases of syphilis treated by "arsolnol" (an arylarsonate). The success secured induced him to continue its use and to recommend it until the middle of last year, when an untoward occurrence compelled him to abandon it and to regret that he had ever advocated it. A syphilitic patient was treated with phelarsonate (a preparation manufactured in Germany), and at the end of a course of ten injections given in the prescribed doses on alternate days, the patient complained of impaired vision, and was found to be suffering from incipient optic atrophy. This naturally caused him immediately to abandon the treatment. Dr. Forbath mentioned a similar case, which was reported in Germany, of a syphilitic patient who became blind after a course of about twenty-five injections of arsolnol. It is unnecessary to enter more fully into the history of these and other cases observed by different authors; Forbath would not have reported these cases, had not he recently received a pamphlet from the manufacturers of the preparations named. In this pamphlet, casual mention is made of the fact that signs of intolerance had been met after the use of arsolnol, such as "visual disturbances, nausea, vomiting, gastric pains, dermatitis, nervousness and insomnia," and that "the appearance of any of the foregoing symptoms should be a signal for withholding the drug." This is the only warning in the pamphlet, though the manufacturers had been informed of one case of total and irremediable blindness after the use of arsolnol, and knew that the physician had abandoned the use of the drug on that account. It is gratifying that the German supreme board of sanitation, having knowledge of a few such cases, took legal steps to prohibit the manufacture of arsolnol and phelarsonate.

Postgraduate Medical Courses in Hungary

On the initiative of the Hungarian minister for public instruction, postgraduate medical courses will again be established in Hungary. The movement has been set on foot by a resolution, passed by the International Committee of Post-Graduate Education, that mutual support be given by different countries (chiefly the new, so-called successor states) to postgraduate education. The minister expressed a preference for the German system, in which the function of the central institution is extended to the provinces. He has charged the dean of the medical faculty of Budapest University with the task of carrying the plan into execution. The dean has convoked the professional board of the university, and, in setting forth the scheme, said that in Hungary the summer vacation courses were the only means for postgraduate medical instruction until 1910, when a regular postgraduate medical school was established and was continued until 1914. During the thirty years preceding the war, eighteen courses had been held, which had been attended by about 2,000 physicians. They had been given by some 300 lecturers, and the fees had served to cover expenses.

Inoculation Against Typhoid Fever

It has been ordered by the Hungarian command that, to encourage soldiers voluntarily to accept inoculation against typhoid, lectures on the advantages of this preventive measure will be given at stated intervals. The men should be advised to be inoculated as soon as they attain service age or become liable to service in Danube navigation, and it is suggested that quarterly inoculation of volunteers might take place in each garrison. If necessary, this could be done at monthly instead of quarterly intervals. The men should not be inoculated until they have completed the course for recruits and the training as soldiers should not be interfered with.

BERLIN

(From Our Regular Correspondent)

April 7, 1923.

Sexuality in Relation to Constitution

In the Hygienic Institute of the University of Berlin, the Aerztliche Gesellschaft für Sexualwissenschaft und Eugenetik held recently a special meeting in celebration of the tenth anniversary of its existence. The main topic discussed was, "Sexuality in Relation to Constitution." Many guests from different parts of Germany and from foreign countries were present. The president of the society, Dr. Max Hirsch, outlined in his opening address the position of sexual science as a branch of natural science and medicine. Sexual science has an historical and philosophical side, and has also a connection with the natural sciences and biology. But only since, in our era, the connection with the natural sciences and biology has been recognized and the scientific mode of inquiry has been introduced, has it been possible for medical thinkers and medical investigators to penetrate more deeply the domain of sexual phenomena. The lecturer pointed out that sexual science and the theory of constitution are based on the doctrine of internal secretion and the theory of heredity. The path leads from the observation of the cell to observations on cell systems—from researches on a single organ to researches on the whole organism. In other words, in place of observations on local organs must come researches on constitution.

Professor Kraus spoke on the subject, "History and Nature of the Problem of Constitution." He discussed the method of local diagnosis which still prevails, and the idea which is coming slowly to be realized that physicians must establish a personal relationship with their patients; that the whole organism is a clinical problem; that investigations on constitution must be regarded as the basis, but that researches on the individual must constitute the superstructure, for the reason that the activity of the patient's individual nature is of paramount importance in all medical treatment. The biologic aspects of constitution must be studied from the standpoint of the development of the species and the individual. Hereditary variation and modification must be sharply distinguished from the development of the individual due to the influences of environment. This double determination of man and the difficulty of recognizing or establishing hereditary influences often compel physicians to view all physical characteristics from the same point of view. Participation in certain sports may cause the same changes as are caused by organic disease. Certain diseases may have their origin in the brain as well

as in various glands. What we see is a form in which development has been completed, and therefore signifies much more than the mere notion of form. Therefore, we are not justified in making deductions with reference to individual character from mere external appearances—not even from observations on form. Professor Kraus discussed the conceptions of physical systems and the researches on the physiologic significance of form, and emphasized the extreme importance of the predisposition of the individual as it affects the mode of reaction to external stimuli. He warned, however, against the mistake of regarding the sexual sphere as the only psychologic source of exalted intoxication, since associative ideas may produce in us quite different types of exalted feeling. Medicine occupies a midway position between the natural sciences and the mental sciences, and must hearken to both.

Professor Hartmann of the Kaiser Wilhelm Institute in Dahlem, a suburb of Berlin, spoke on "The Biologic Basis of the Sexual Constitution." He gave a short survey of the mendelian theory of heredity, and showed how deeply sex distinctions affect all living nature. The determinants of heredity are inherent in the chromosomes of the cells, while each cell contains the determinative principles of both sexes. Only the presence (female) or absence (male) of the accessory chromosome constituting the sex differentiator is the determining factor of sex. The crossings of different breeds or strains, which possess these factors in different potency, produce, then, so-called intersexual organisms. Besides this hereditary intersexuality, there is also a hormonal intersexuality which is determined by the evolution of the secretions. A cell, however, may be masculine with reference to a second and feminine with respect to a third cell. The lecturer illustrated this thought by reference to examples of more primitive organisms, and called attention to the great difficulty of carrying out the needed experiments on complicated organisms. He stated that there was, however, no doubt that sexuality was a paramount factor in all cell life; that is, in all cellular systems.

Professor Kretschmer (Tübingen) outlined the basis for "The Psychology and Pathology of the Sexual Constitution." In connection with his classification of human beings as pycnic, asthenic, etc., he discussed the effects of constitutional tendencies as revealed in persons of note, pointing out parallels between psychic endowments and constitution in certain well known personages. He stressed also the possibility of the development of instinctive desires through the association of ideas, pointing out that in certain constitutions their repression was liable to lead to apparently unexplainable hysteria and neuroses. He interpreted the ideas and purposes of the ascetics as due to suppressed sadistic and masochistic tendencies, and showed that asceticism should no longer be regarded as conditioned by an absence of natural instincts, but rather as due to the satisfaction of strong instincts urging the infliction of self-torture. The "idealistic pathos" of the period of puberty, he explained, is due to psychic sexual representations that fall short of realization. He showed that the constitutional dynamics represented by the power of instincts affect to the uttermost all manifestations of the mind and determine its output.

Professor Hübner (Bonn) treated the relations between "Sexual Constitution and Jurisprudence," and showed how a knowledge and consideration of the sexual motives in all criminal cases open up an entirely different point of view in dealing with "amateurs," and allow one to judge their conduct much more justly. He discussed sexual suggestibility and various problems pertaining to the relations of the sexes, which must be better understood before we can establish a just system of criminal law and avoid treating disease as crime.

Great importance for the further development of sexual science attaches to the statements of Professor Matthes with reference to the establishment of types and the difficulties of the problem, owing to the fact that we must consider not only environmental influences but also the modifications in character, since the same individuals in the course of their life undergo most remarkable constitutional changes.

Professor Posner (Berlin) called attention to the progress in medicine that has resulted from the study of sexual science. Many diseases that formerly were treated with doubtful success as localized diseases can now be treated with much better understanding because the part played by constitutional factors has been recognized. For the determination of constitution, he advised starting with the aspects of individual conditions and testing them as to the type elements they contain.

Professor Mühsam expatiated on "The Effects of Sexual Constitution on the Psyche," showing to what extent the character of an individual depends on his sexual constitution and the changes in character brought about by influences affecting sexuality. He referred to Steinach's experiments on the organs of sex as still unexplained. The sexual constitution is influenced by various endosecretory processes.

Professor Peritz referred to the significance of the "reaction type" for the constitution. As the determinants of the constitution he designated the sexual factors in the cells, the hormones in the gonads and the endogenous "reaction types" in the nervous system. Changing the sexual factors does not lie within our power; the hormones are undergoing a constant change as time goes on, and they influence in turn the "reaction type." It is this reaction capacity that determines a child's character. In the period of puberty a complex of inhibitions begins to develop, and keeps pace with the maturing of the gonads. The final development depends then entirely on the relation that is established between these two complexes.

Sanitätsrat Magnus-Hirschfeld considered the stability of constitutional types, and explained, by means of numerous illustrations from the rich collection in the archives of the Institute for Sexual Research, the various human organisms that occupy an intermediate position sexually. He described in some detail their physiologic and psychologic peculiarities, and pointed out their necessity and difficulty of constantly repressing their natural sexual instincts. In closing, he expressed the hope that the better understanding of the theory of constitution and the doctrine of hormones might furnish an improved basis for an independent sexual science, the need of which was shown by the convening of this society, which he aided in founding.

Heredity and Education

At a recent meeting of the Deutsche Gesellschaft für Rassenhygiene (eugenics), the important problem "Heredity and Education" came up for discussion. According to Poll, the new professor in the field of hereditary transmission, the notion of heredity in modern biology has changed fundamentally. Hereditary transmission of a quality, character or function has been shown to be a rare and exceptional occurrence. An explanation of the fact that so much more frequently dissimilarities in form and performance are observed in ancestor and descendant awakens today a lively interest. The modern biologic theory of evolution, like the modern chemical theory of development, has come by means of exact experiments and observations to the conception that all living organisms have a definite constitution; that, just as chemical compounds are formed from atoms, biologic compounds, as represented by plants, animals and man, are formed from *Genen* or hereditary units. On the relationship of these hereditary units depend the form and behavior of all living

bodies. In the development of a living organism, external circumstances exert a modifying influence on the constitution of these hereditary units. The manner in which living organisms may be modified by external influences is determined by a hereditary capacity. Education signifies modification of a given constitution of man. The relationship of the hereditary units sets, therefore, insurmountable limitations on the capacity for modification under external influences; that is, on education. With the exception of twins, which have developed from two like germ cells, all human beings have a different hereditary constitution. It is, therefore, biologically illogical to endeavor to impose the same training and the same education on all human beings alike. Strictly speaking, since the hereditary constitution of every human being is different, every person should receive an education such as is best adapted to his (or her) peculiar nature. In closing, the speaker touched on the problem of improving mankind by education. In the light of the modern biologic theory of evolution this is a hopeless task, for there is no hereditary transmission of modifications. A progressive development of man can consequently not be brought about in this manner.

In his address which followed, Schlemmer, educational commissioner, expressed himself somewhat as follows: When an educator considers the conclusions reached by the science of heredity with respect to the hereditary transmission of modifications of character, his first impression is that, in the face of such facts, all efforts at education are entirely useless; and, indeed, the educator will do well to rid himself of the sovereign idea, which frequently takes possession of him, that he can accomplish with a pupil whatever he wishes; likewise, many of the time-honored methods of education, such as admonition, punishment and good example, will have to undergo considerable modification. However, from other points of view, the science of heredity introduces to us a wealth of important educational problems. To be sure, the inherited disposition of the child cannot be changed, but how the child's disposition develops depends to a large extent on the educational influences that are brought to bear on it—on environment, training, formal education, etc. It is also true that researches on heredity throw an entirely new light on many pedagogic problems; for example, welfare education, selection and separation from the multitude of the more gifted children, and a specially adapted training and education for girls. Pedagogy based on the highest ideals has much to learn from the teachings of heredity; nor are the findings of hereditary science out of harmony with the fundamental facts of religious experience.

A German Hygienic Expedition to Brazil

Prof. F. Munk (Berlin) accepted the invitation of Professor Chagas (Brazil) to undertake a hygienic expedition to Brazil, and has now published his report, from which the following statements are cited. Public health conditions in Brazil have improved greatly in recent years. After the bad conditions along the coast were abolished, the authorities began waging a successful fight against disease in the interior. A strange disease termed the "Chagas disease" has been encountered thus far only in Brazil, but it has a certain interest for us in Germany because there seem to be points of resemblance between the Chagas disease and a peculiar type of goiter that occurs here. The Chagas disease is common in a very dry plateau region, the population of which consists in large part of negroes and Indians of mixed blood. Chagas discovered trypanosomes in a bug by the bite of which the disease is transmitted to man. The symptoms consist of a goiter, cutaneous swellings, cardiac disturbances, etc. The whole course of the disease has not been cleared up, as yet.

Marriages

D. EMMETT WELSH to Mrs. Fannie M. Koon, both of Grand Rapids, Mich., at Los Angeles, April 2.

WILLIAM G. TELFAIR, Long Island City, N. Y., to Miss Adaline Bennett of Manchester, April 4.

WILLIAM T. JOHNSON, Eldorado, Ill., to Mrs. Katherine Patterson, of Norris City, April 29.

ROY EDMUND KRIGBAUM to Miss Lillian Agnes McGrath, both of Columbus, Ohio, May 5.

HELMUTH C. W. ERNST to Miss Gertrude Rose Bush, both of East Chicago, Ind., April 24.

RUSSELL M. FARNHAM to DR. HARRIET J. BOWER, both of Los Angeles, in April.

Deaths

Thomas Grant Allen, Chicago; Northwestern University Medical School, Chicago, 1898; member of the Chicago Pediatric Society and the Central States Pediatric Society; formerly professor of children's diseases at the Post-Graduate Medical School; served in the M. C., U. S. Army, during the World War; on the staff of U. S. Veterans' Hospital No. 30; aged 59; died, May 10, of pneumonia.

Louis Milton Coy ✠ San Bernardino, Calif.; College of Physicians and Surgeons, Los Angeles, 1915; past president of the San Bernardino County Medical Society; served in the M. C., U. S. Army, during the World War; formerly superintendent of the San Bernardino General Hospital, where he died, April 13, of Vincent's angina of the larynx, aged 33.

St. Clair Smith, New York; New York Homeopathic Medical College, New York, 1869; emeritus professor of theory and practice of medicine at his alma mater; formerly on the staffs of the Flower Hospital, New York, Morristown Memorial Hospital, Morristown, N. J., and St. Mary's Hospital, Passaic, N. J.; aged 77; died, May 1, in Pasadena, Calif.

William Dayton Shields ✠ Holdrege, Neb.; Medical College of Indiana, Indianapolis, 1886; member of the American Academy of Ophthalmology and Oto-Laryngology, the Omaha Ophthalmological Otological Society, and the Sioux Valley Eye and Ear Academy; aged 66; died, April 26.

Eliseo Font Y. Guillot, San Juan, P. R.; Universidad Santiago de Compostela, Spain, 1880; past president of the Medical Academy of Porto Rico, and at one time subcommissioner of health; on duty at the U. S. Public Health Service Relief Station; aged 67; died, March 27.

Earle Appleton Gayde, Taberg, N. Y.; New York Homeopathic Medical College and Hospital, New York, 1898; formerly city medical inspector of Utica; at one time on the staff of the Utica Homeopathic Hospital; aged 54; died suddenly, April 17, of angina pectoris.

John Joseph Reid, New York; Medical Department of Columbia College, New York, 1869; member of the Medical Society of the State of New York, 1869; formerly on the staffs of the City and New York Foundling hospitals; aged 77; died, May 1, of myocarditis.

Edward Pinchon Bartlett, Springfield, Ill.; St. Louis Medical College, St. Louis, 1870; Bellevue Hospital Medical College, New York, 1875; state commander of the Grand Army of the Republic; aged 81; died, May 10, of cardiac asthma, at a local hospital.

Francis Marion Martin, Maryville, Mo.; Hahnemann Medical College and Hospital, Chicago, 1877; member of the Missouri State Medical Association; formerly county coroner; on the staff of St. Francis Hospital; aged 72; died, April 29, of pneumonia.

George E. Parsons ✠ Elk River, Minn.; University of Minnesota Medical School, Minneapolis, 1905; served as secretary of the Central Minnesota Medical Society for several years; aged 40; died, April 5, at the Abbott Hospital, Minneapolis.

Alexander Joseph Monge, Rochester, N. H.; Laval University Faculty of Medicine, Quebec, Que., Canada, 1897; member of the New Hampshire Medical Society; served in the

M. C., U. S. Army, during the World War, with the rank of captain; aged 56; died, April 21, of cerebral hemorrhage.

Gustav Hausser ✠ Cincinnati; Medical College of Ohio, Cincinnati, 1902; formerly instructor of dermatology at the Cincinnati Polyclinic and Post-Graduate School; aged 49; died, April 22, of pneumonia, at the Good Samaritan Hospital.

James Fey Cole, Oelwein, Iowa; State University of Iowa College of Medicine, Iowa City, 1887; served in the M. C., U. S. Army, during the World War, with the rank of captain; former mayor of Oelwein; aged 58; died, April 21.

Samuel Lanham Allen, Lancaster, S. C.; Medical College of the State of South Carolina, Charleston, 1912; member of the South Carolina Medical Association; aged 38; died, April 20, at the Spartanburg Hospital, Spartanburg.

Lewis Llewellyn Wickersham, Malden, Ill.; Rush Medical College, Chicago, 1882; also a druggist; aged 63; died, April 23, at the Perry Memorial Hospital, Princeton, of an overdose of veronal, presumably self-administered.

Morris Nathan Karash, New York; Columbia University College of Physicians and Surgeons, New York, 1896; member of the Medical Society of the State of New York; aged 61; died, April 28, of chronic myocarditis.

George Thomas Fuller, Jr., Tucson, Ariz.; Eclectic Medical College, Cincinnati, 1918; member of the Arizona Medical Association and the Kentucky State Medical Association; aged 31; died, April 20, of tuberculosis.

William Madison Dinsmore, Decatur, Ala.; Birmingham Medical College, Birmingham, 1909; member of the Medical Association of the State of Alabama; aged 43; died, April 18, of septicemia, at Nashville, Tenn.

George James Haslam ✠ Fremont, Neb.; M.R.C.S., England, 1880; Queens University, Ireland, 1880; served in the M. C., U. S. Army, during the World War; aged 64; died suddenly, April 24, of heart disease.

William Whitfield Stevens, Philadelphia; Ensworth Medical College, St. Joseph, Mo., 1892; member of the Medical Society of the State of Pennsylvania; aged 62; died suddenly, April 21, of heart disease.

Frederick Lee Morse ✠ Lake Odessa, Mich.; Saginaw Valley Medical College, Saginaw, 1898; served in the M. C., U. S. Army, during the World War, with the rank of captain; aged 47; died, April 30.

Thomas Jefferson Lyne, Stockport, Ohio; Dartmouth Medical School, Hanover, N. H., 1882; member of the Ohio State Medical Association; also a druggist; aged 63; died, April 21, of pneumonia.

Charles Wesley Blake, Jefferson, Iowa; State University of Iowa College of Medicine, Iowa City, 1898; member of the Iowa State Medical Society; aged 49; died, April 22, of cerebral hemorrhage.

Daniel Stanley Lyons, New York; Medical Department of Columbia College, New York, 1876; member of the Medical Society of the State of New York; aged 73; died, April 24, of heart disease.

Boulanger Gwaltney, Traskwood, Ark; University of Arkansas Medical Department, Little Rock, 1913; served in the M. C., U. S. Army, during the World War; aged 35; died recently.

Archibald Bryant Taylor, Hanover, Ont., Canada; Trinity Medical College, Toronto, 1876; for nine years mayor of Hanover; aged 70; died, March 17, of heart disease and pneumonia.

Willis Mather Baker ✠ Warren, Pa.; University of Buffalo (N. Y.) Department of Medicine, 1878; past president of the Warren County Medical Society; aged 66; died, April 21, of pleurisy.

Life Harrison, Peoria, Ill.; Chicago College of Medicine and Surgery, Chicago, 1911; member of the Illinois State Medical Society; aged 57; died, May 6, in Delmar, Iowa.

Thomas P. McCluney, Lincoln, Calif.; St. Louis Medical College, St. Louis, 1860; Civil War veteran; formerly a practitioner in Missouri; aged 87; died recently, of senility.

Horace Hill Cowles, Lander, Pa.; Medical Department of the University of the City of New York, New York, 1877; aged 70; died, April 15, of influenza and pneumonia.

Frank P. Culverson, Greenfield, Iowa; College of Physicians and Surgeons, St. Joseph, Mo., 1880; also a druggist; aged 68; died, April 20, of cerebral hemorrhage.

Mercer R. Girvin, Mount Nebo, Pa.; College of Physicians and Surgeons, Baltimore, 1893; aged 54; died, April 25, at the Lancaster General Hospital, Lancaster.

Melville Hamilton Embree, Ottawa, Ont., Canada; University of Toronto Faculty of Medicine, Toronto, 1904; aged 44; died, April 1, at Ste. Anne de Bellevue.

William Penick Millen, Halls, Tenn.; Memphis Hospital Medical College, Memphis, 1902; aged 47; died, April 26, of uremia, at a sanatorium in Memphis.

George William McNamara, Erie, Pa.; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1879; aged 71; died recently, of senility.

W. H. McNorrill, Waynesboro, Ga.; University of Georgia Medical Department, Augusta, 1874; aged 69; died, March 16, of pneumonia, at Telfairville.

Charles Joseph Lopez, New Orleans; Medical Department University of Louisiana, New Orleans, 1873; aged 68; died, April 21, of diabetes mellitus.

Felix Spinzig, St. Louis; St. Louis Medical College, 1883; member of the Missouri State Medical Association; aged 65; died, March 1, of erysipelas.

Charles Frederick Haynes, Gorham, Me.; Bowdoin Medical School, Portland, 1862; Civil War veteran; aged 84; died, April 24, of senility.

Abram Baldwin Sturges, New Rochelle, N. Y.; Medical Department of the University of the City of New York, 1868; aged 76; died, April 28.

Sanford H. McCall, Santa Ana, Calif.; Wisconsin College of Physicians and Surgeons, Milwaukee, 1900; aged 60; died, April 21, of paralysis.

Briton Havelock Richardson, Brooklyn; Long Island College Hospital, Brooklyn, 1893; aged 64; died, May 1, of cerebral hemorrhage.

Joseph Benjamin Robinson, Birmingham, Ala.; Vanderbilt University Medical Department, Nashville, Tenn., 1882; aged 74; died, April 13.

Nathaniel H. Manring, Elwood, Ind.; Indiana Medical College, Indianapolis, 1876; aged 77; died, April 19, of cerebral hemorrhage.

George Washington Hart ✠ Hartwell, Ark.; University of Arkansas Medical Department, Little Rock, 1920; aged 34; died, April 13.

Franklin Pierce Bivins, Shelbyville, Ill.; Miami Medical College, Cincinnati, 1881; aged 69; died, April 22, following a long illness.

George William Nash, Hurley, N. Y.; Medical School of Harvard University, Boston, 1884; aged 66; died, April 13, of carcinoma.

Charles A. Canfield ✠ Preston, Idaho; Homeopathic Medical College of Missouri, St. Louis, 1890; died, April 21, of heart disease.

Mark Spicker, Chicago; Medical Department of the University of the City of New York, 1872; aged 72; died, May 10, of uremia.

William Richardson, Carson City, Mich.; University of Michigan Medical School, Ann Arbor, 1871; aged 78; died, March 18.

William Robert MacKenzie ✠ Chester, Ill.; University of Michigan Medical School, Ann Arbor, 1870; aged 79; died, April 24.

James Franklin Barker ✠ Albany, N. Y.; Albany Medical College, 1877; aged 71; died, March 18, following a long illness.

John George A. Stahl, Chicago; Rush Medical College, Chicago, 1895; aged 59; died, May 10, of cerebral hemorrhage.

Peter Macdonald, London, Ont., Canada; Trinity Medical College, Toronto, 1872; aged 86; died, March 24, of senility.

Thomas Bernard Morrissey, Los Angeles; Rush Medical College, Chicago, 1899; aged 56; died, April 23, of pneumonia.

William Ellwood Lewis, Bothell, Wash.; Jefferson Medical College of Philadelphia, 1878; aged 72; died, April 21.

Otto Morton Roberts, Winkelman, Ariz.; Miami Medical College, Cincinnati, 1887; aged 60; died, April 28.

Barnett Linton Embry, Villa Rica, Ga.; Atlanta Medical College, Atlanta, 1878; aged 70; died, April 21.

Robert Lucy, Guelph, Ont., Canada; Trinity Medical College, Toronto, 1885; aged 61; died, April 3.

Henry Buschmann, Cincinnati; Medical College of Ohio, Cincinnati, 1897; aged 72; died, April 23.

W. B. Yoe, Cambridge, Ohio (licensed, years of practice); aged 81; died, April 23, of senility.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

THE STANDARDIZATION OF PITUITARY EXTRACT

Pituitary extract—a solution containing the water soluble principle or principles from the fresh posterior lobe of the pituitary body of cattle—is official in the United States Pharmacopeia as Solution of Hypophysis *(Liquor Hypophysis)*. It is required to be standardized so that 1 c.c. diluted 20,000 times has the same activity on the isolated uterus of the virgin guinea-pig as a one-to-twenty-million solution of beta-iminazolyl-ethylamine (histamine) hydrochloride.

In practice the pharmacopeial standard has been found unreliable and manufacturers have adopted various modifications of the method in an attempt to overcome the objections to this assay method. Further, the pharmacopeial solution has been found too weak and a number of manufacturers have marketed nonpharmacopeial solutions which are considerably stronger. New and Nonofficial Remedies lists products some of which (intended for obstetrical use) are approximately two and one half or three times and others (intended for surgical use) five or six times the strength of the official preparation.

The wide variation in the strength of commercial pituitary extracts and the unsatisfactory character of the pharmacopeial assay method is shown in a study carried out at the Pharmacology Laboratory of the University of Michigan Medical School by Erwin E. Nelson (*J. Lab. and Clin. Med.* **8**:318 (Feb.) 1923). An examination of ten specimens showed that preparations claimed to be of pharmacopeial strength differed widely, some being but one fifth the strength of others. Nelson believes that this variation may be due largely to the undependability of the assay method—that is, that the method gives different results in the hands of different operators.

As a result of his work, Nelson favors the adoption of a method of standardization in which the commercial extracts are standardized against a preparation of pituitary gland.

The unreliability of the present market supply of pituitary extract and the need for a better method of assay is further emphasized through a study carried out by Maurice I. Smith and William B. McClosky (*Public Health Rep.* **38**:493 [March 16] 1923). They made an assay, by the isolated uterus method of nine commercial pituitary extracts against preparations of their own make from desiccated and defatted postpituitary lobes. There was a wide variation in the activity of the commercial extracts, ranging approximately from that of 9 mg. of fresh postpituitary substance to each cubic centimeter to nearly 70 mg. It also appears that several of the extracts assayed at from 2 to 3 per cent. of fresh substance, two at about 1 per cent. two at 4 per cent. and one at nearly 7 per cent., respectively.

A MEANINGLESS STANDARDIZATION

The authors report that all the commercial extracts bore the inscription "physiologically standardized"; that each manufacturer is using his own standard of strength; and that the standards of the different manufacturers have no relation to each other. Some of the preparations had the statement that the extract represented 20 and even 30 per cent. of fresh posterior lobe material. From these experiments it appears that the strongest preparation represents only 7 per cent. of fresh postpituitary gland, while most of the others are considerably below 5 per cent. Obviously, the manufacturers either succeeded in getting out only part of the activity of the gland, lost much of it during process of manufacture, or the extracts suffered deterioration during the time intervening between the time of their manufacture and the time of this examination. Two extracts that, according to the manufacturers' statement, were supposed to represent 20 per cent. of fresh gland material, were found to assay only a little over 3 and 4 per cent., respectively. One extract said to represent the activity of 30 gm. of fresh infundibular substance to each hundred cubic cetimeters of solvent, assayed at less than 1 per cent. It did not appear to the examiners that the time element, within reasonable limits, would be a factor in the deterioration of extracts. The 5 per cent. fresh gland extract which they themselves made gave no evidence of deterioration after a period of six months.

Smith and McClosky describe a method for the preparation of an infundibular powder of uniform potency, representing the whole oxytocic and pressor activity of the infundibular lobe of the pituitary gland. The powder has not shown any deterioration after nearly eight months. The active principle (or principles) is readily extracted quantitatively from the powder by simple manipulation. It is proposed that an infundibular powder such as is described be used as a standard for the assay of commercial extracts by the isolated uterus method, and the recommendation is made that manufacturers be required to make and standardize their extracts to represent the activity of 4 mg. of the standard powder, or its approximate equal of fresh gland substance (which is 30 mg.) per cubic centimeter of extract.

THE NEED OF CONTROL

It is to be hoped that the next pharmacopeia (which is now in process of preparation) will provide a pituitary solution of satisfactory strength and that an assay method will be adopted which will ensure a satisfactory control of this important medicament. The strength of this preparation should be such as to make the marketing of two strengths unnecessary. Thus, for instance, instead of administering 0.5 to 1 c.c. of an "obstetric" and the same amount of a "surgical" solution which is twice as strong, the dose might be from 0.5 to 1 c.c. when used in obstetrical work and 1 to 2 c.c. when used for surgical cases. In this connection it may be suggested that the pharmacopeia committee consider the replacement of the unpopular term "solution of hypophysis" by one which physicians will find more familiar, such as solution of pituitary.

The investigation of Nelson and of Smith and McClosky would have been of greater value to physicians had the names of the preparations and of their manufacturers been disclosed. Until such time as the Pharmacopeial Revision Committee adopts a method of bio-assay of pituitary extract which will insure a product of uniform activity the physician will do well to use one of the pituitary preparations accepted for New and Nonofficial Remedies, which he has found to be satisfactory in his experience.

Correspondence

EPIDEMIC ENCEPHALITIS

To the Editor:—In a recent leading article in THE JOURNAL, reference is made to some views that I am supposed to hold, and which, it is said, are no longer seriously considered. I am sure you will allow me space to say that the belief that poliomyelitis and encephalitis lethargica have the same virus, or that the virus of encephalitis lethargica is the same, or a variation of that of poliomyelitis, does not quite accurately represent my position.

So far as I can see, there has not yet been put forward any single clinical, epidemiologic or pathologic criterion that clearly separates the vast mass of these nervous cases into two groups: that enables us to say definitely, in respect of *all* cases, which should be put on the left and which on the right. So long as this is so, it seems to me wise to use one common name, and to speak of cases of epidemic encephalomyelitis, or the like. But, if a clear division can be made, then we may use two separate names, and proceed to discuss

and investigate the difference or community in respect of virus in the two groups. It by no means follows that differences in respect of virus should follow the same line of separation as clinical, or even pathologic differences. For the moment, in asking whether poliomyelitis and encephalitis lethargica have "the same virus," it seems to me that we are begging an important question: namely, whether the setting up of these two rather undefined concepts as those of two separate diseases is justified except as a temporary expedient.

Put in another way, we are begging an important question if we ask a pathologist to determine the virus in a case of "encephalitis lethargica" on one day, and in a case of "poliomyelitis" the next.

Such a pathologist might well reply: "I have read what Netter has said on this question: are you sure that your case of 'encephalitis lethargica' is not one of 'poliomyelitis of the cerebral type,' and your case of 'poliomyelitis,' one of 'encephalitis of the spinal type'?"

Our conception of poliomyelitis has gradually widened, during my lifetime, from one of an acute motor palsy of children depending on a lesion of an anterior horn, to the much broader notion put forward in the books of Dr. Draper and Dr. Ruhräh.

It seems to me that only a little extension is now required to bring the cases called "encephalitis lethargica" under the Heine-Medin, or "epidemic encephalomyelitis" umbrella; and so far no one has shown definite causes to keep them out from that friendly shade. Even the results of the bacteriologists and immunologists cancel each other out, and fail to give the "clear cut" some hoped for.

P. G. CROOKSHANK, M.D., F.R.C.P., London.

"MERCURIALS IN EXPERIMENTAL SYPHILIS"

To the Editor:—Supplementary to our article in THE JOURNAL, May 12, page 1365, two of the node transfers from rabbits treated with red mercuric iodid have become positive, making the treatment with this drug subcurative in at least three of the four cases.

JUSTINA H. HILL, M.S., and H. H. YOUNG, M.D., Baltimore.

PROPER COURSE FOR PROPONENTS OF NEW METHODS IN TREATING SYPHILIS

To the Editor:—I have read with interest the recent reports of the Council on Pharmacy and Chemistry of the American Medical Association dealing with various preparations for the treatment of syphilis. I think the Council is to be congratulated on its effort to protect the field of syphilotherapeutics from objectionable types of propaganda.

The problem of what is and what is not effective treatment for syphilis may, of course, be a matter for wide difference of opinion. The questions involved are undoubtedly of great complexity. There is certainly no excuse for a hidebound traditional outlook that would restrict the treatment of the disease absolutely to the orthodox arsphenamins and mercury and iodid by the older methods of administration. On the other hand, treatment for syphilis is peculiarly a field susceptible of irrational and unprincipled exploitation. The mechanism of action of the drugs even now employed, while fairly understood by a few, is not sufficiently familiar to most practicing physicians to enable them to judge for themselves the worth of claims made by drug manufacturers for this or that innovation. The proponent of a new or modified form of treatment for syphilis, it seems to me, before he even considers placing his preparation in the hands of the medical profession at large for every-day use, should seek definite knowledge and authoritative corroboration of his findings on certain points, as follows:

1. He should know the composition of the medicament in question, and be prepared to state it publicly.

2. Its toxicity for animals and by inference for man should have been definitely appraised.

3. The reactions which the drug may produce in animals, and the means of preventing them, should have had careful study.

4. The trypanocidal index of the preparation should have been correctly measured, and the ultimate as well as the immediate trypanocidal effect in animals definitely worked out.

5. After the study of trypanocidal effects should come the study of the effect of the drug on *Spirochaeta pallida* in the rabbit. The uncertainties of this phase of the investigation must be borne in mind, and the experiments not accepted as a final measure of value. Lymph-node inoculations are a necessary part of this work.

6. In preparations which are not expected to exhibit a direct destructive effect on *Spirochaeta pallida,* evidence should be available to show that the preparation under examination has a definite and definable effect on the resistance mechanism in syphilis which results in therapeutic responses in animals not dependent on direct spirocheticidal action.

7. Definite information should next be obtained as to the stability or instability of the preparation under marketing conditions, so that the physician who may later employ it may know whether he is dealing with a product of constant or variable effectiveness. If variations or deteriorations can be detected chemically or biologically, they must be planned for in advance of any clinical trial.

8. Not until these requirements are satisfied should a new preparation for the treatment of syphilis receive a clinical test on man. Such a clinical test should not be conducted under the auspices of isolated and partially equipped physicians, but should be carried out in properly equipped hospitals and clinics under expert direction. Systematic study of the viability and rate of destruction of *Spirochaeta pallida* in active early lesions must be carried out, and the effect on serologic and clinical manifestations of the diseases observed. The keeping of adequate records should be regarded as an essential qualification in all clinics asked to undertake this work. Mere number of patients or treatment, without proper follow-up and observation, does not provide final evidence for the clinical evaluation of drugs to be used in the treatment of syphilis.

9. The action of the new drug or combination should be studied in comparison with that of known effective antisyphilitic drugs of all types.

10. The reports of clinical results obtained with a new preparation should be given the widest possible publicity through the medium of medical journals of high standing before the preparation is made generally available.

11. The cooperation of the Hygienic Laboratory of the United States Public Health Service and the Council on Pharmacy and Chemistry of the American Medical Association should in this country be sought before and not after advertising and sales campaigns are considered or formulated.

Such a series of labors preparatory to a pharmaceutical début in the syphilologic field may seem Herculean to the average drug manufacturer, eager to capture a lucrative and uncritical clientele. Yet it embodies no more than the past decade has taught us in regard to the chemotherapy of syphilis. How many of these requirements have the manufacturers of the Herradora specialties or other recent prep-

arations with a more pretentious front attempted to meet before circularizing the medical profession at large?

I think it is Professor Dewey who has said, in effect, that one of the chief functions of education in this day of cheap printing and tainted news should be to assist mankind in distinguishing sound values in experience from the bunk and hokum that flows in on us from every side. If this is indeed the purpose of education, the service of the Council on Pharmacy and Chemistry conforms in the best sense to educational ideals. Its aid in preventing the exploitation of a large group of unfortunates will be appreciated by syphilologists.

JOHN H. STOKES, M.D., Rochester, Minn.

"THE INSIDE STORY OF DOPE"

To the Editor:—In a recent article on "The Inside Story of Dope in This Country" (*Hearst's International*, May, 1923), Sidney Howard makes a vicious indictment against the medical profession. This arraignment is admittedly premeditated, for in paragraph 3, page 17, he says, "Over half of our addicted population owes its plight to the circumstance or ignorance of medical treatment. This is the real and appalling importance of the dope problem."

In paragraph 4, on the same page, this erudite gentleman gives "figures from the records of the Charles B. Towns Hospital" which he claims to have obtained from Dr. Alexander Lambert. "Here are eleven hundred and some addicted male patients who received treatment in the course of a year. Of that number exactly ninety-six are listed as members of the Underworld while four hundred are doctors." Then, through a process of careful analysis, he shows "this group of ninety-six criminal types against better than a thousand respectable unfortunates most of whom have become addicted through unskilled or unavoidable medical treatment." This able statistician with astute mixture of mental gymnastics and legerdemain produces an additional "eight hundred thousand odd noncriminal addicts as proof positive of the futility of criminal prosecution as a single weapon against dope."

This Moses, who has taken his allotted time in getting out of the wilderness, asserts that "the existence of the pedler is no more than an automatic economic response to a great market from which the legitimate supply has been cut off by law. The authorities in charge of enforcing antinarcotic legislation denied the doctors the right to prescribe narcotics to narcotic addicts except in treatment of incurable diseases or for the aged and infirm. Unquestionably the blatant misdemeanors of many doctors justified this regulation."

The camel's load was apparently too heavy, for the sentence following the foregoing reads, "None the less, it is very certain that addiction grows and spreads more rapidly with drugs in the hands of the greedy pedler than ever it did in the days of promiscuous doctor's prescriptions." Then, in his incoherent rambling, he continues: "I am not interested in any solution which is no better than the lesser of two evils. The thing, so viewed, is simply a vicious circle from pedlers to doctors and back to pedlers again."

After this producer of human interest documents has submerged the doctors into the seven circles of Hades, whitewashed the Underworld, and made "nice, clean, hundred per cent." Americans out of dope pedlers, he eructates the following pronunciamento: "As for the doctors, they are either cowards of necessity or opportunists by profession. They know nothing. They have done nothing. They will dare nothing. Except the few whose consciences are not above paying the income tax on quackery."

He raves on: "As long as the average general practitioner of medicine remains of the opinion that his job is no more than the gentle art of killing pain, we can expect a considerable overuse of morphin and a resulting population of innocent addicts."

"Again and again I ask opiate users what the sensations are. Their answers run so consistently that I can typify them."

How really wonderful! They are human and speak for themselves: "I smoked opium for a while. I had fine dreams of castles in Spain and perfectly equipped harems and anything I happened to want I couldn't get. Then I stopped dreaming but I couldn't stop smoking. It made me sick when I tried. . . . After I laid off the pipe I had no more use for it. I was in for morphin and in for it right. It fooled me at first. I thought I had something good. At first it made everything seem so easy. That didn't last two weeks. I tried heroin. I use fifty grains a day now." Mighty "consistent" is this writer, who has the doctors running opium joints on Mott Street!

The writer develops suddenly into a "full fledged" doctor. He describes the etiology, pathology, symptoms, complications and prognosis of opiumism. He has arrived at the point where he prescribes for the patient dying from morphin poisoning. Then he proceeds with the treatment. The language of the author of "dope" is more convincing: "As I have seen it happen over and over. There was a witness in the district attorney's office in New York. I mentioned him once before in these articles. I shall never forget the blue look of him lying on the floor, the deathly sickness, the pulse that, as I took it, was surely near to death itself. When we administered the shot which would enable him to continue his testimony, the effect was magical. In two minutes he was talking again, as vigorously as any one of us." How marvelous! Perhaps if the writer had used epinephrin, the result would have been instantaneous. And so continues the bunk in these articles.

In behalf of a profession that has suffered much for humanity and a constructive civilization and gained little in wordly goods, I ask, Why should the medical profession be subject to such humiliating unjustifiable criticism?

W. F. DUTTON, M.D., Philadelphia.

AID FOR RUSSIAN PHYSICIANS

To the Editor:—As public health adviser to the Russian Commission of the National Information Bureau, I have had the opportunity of making a survey of health conditions in the larger cities, in normal country districts, and in the famine districts of Russia. Our observations agree with the reports of the League of Nations Health Section as to typhus, recurrent fever, cholera, dysentery and smallpox. Great effort is being made to control epidemic diseases, but they are still to be found in all parts of the country to an extent that would tax the health resources of any country. Accurate medical statistics are not available, but the fact that in the last five years, according to the most moderate estimates of epidemiologists, there have been 25,000,000 cases of typhus alone, gives some idea of the extent of the problem. Malaria is widespread, especially among the peasant population, and is still on the increase. In December the commissariat of health reported 8,000,000 cases registered. No statistician dares even estimate the inroads of tuberculosis on an exhausted population in a chronic state of undernutrition.

One of the most serious problems that confronts the medical profession is the care of millions of children whose health has been damaged by adverse social and economic conditions. Studies made among 25,000 school children in Kiev and 22,000 in Kharkov, both in the famine region, show 75 and 82 per cent. classified as tuberculous on the basis of Pirquet tests plus positive clinical findings in each case. A

school dispensary in Petrograd reports that if marked anemia and malnutrition are included, 100 per cent. of the 27,000 children examined in 1922 presented symptoms requiring treatment.

Hospitals, which have been taxed to the utmost to meet the epidemic situation, are now running with greatly reduced efficiency, owing to lack of necessary equipment and supplies. Surgical instruments are worn beyond the possibility of repair. The American Relief Administration and other foreign relief organizations have sent great quantities of medical supplies, but Russia is so large and so impoverished after the many years of isolation and disease that we found medicines only in small quantities or entirely lacking in all the districts we visited in Russia. In many of the so-called normal areas, which have never been touched by foreign relief, the lack of essential supplies is even more acute than in the famine area. Dispensaries, while still running, are hampered by the lack of even the simplest drugs. For example, one district in the Samara government reporting 4,500 cases of malaria, had not one grain of quinin.

Russian physicians and nurses, as a result of their self-sacrificing efforts to maintain a high standard of medical work, have reached the point of exhaustion. It is certain that at least 75 per cent. of these men and women are existing on incomes inadequate for even the bare necessities of food and clothing. Great numbers of physicians and nurses have died in fighting epidemics; others have contracted tuberculosis; and those who remain are so weakened by years of privation and overwork that they have slight resistance to disease. All achievement is being paid for in terms of undermined health and death among the medical personnel, but Russian physicians everywhere, while admitting their desperate economic condition, made only one appeal for themselves—medical literature from the outside world.

In my opinion, the point of attack in the present health situation of Russia is to preserve the medical personnel and to supply their essential professional needs. There is great need for food and clothing to protect the health of the individual physician and nurse; for instruments, drugs, medical supplies and literature to make their work effective. I trust that the national campaign of physicians and surgeons in behalf of medical aid for Russia will bring this situation so forcibly to the attention of the American public that immediate and generous aid will be given.

H. O. Eversole, New York,
Commission on Russian Relief.

To the Editor:—An earnest effort is being made by the American Medical Aid for Russia, the Medical Division of the American Friends Service Committee (Quakers), to collect money, clothing, instruments, books and journals for our medical colleagues in Russia.

The condition of these men is deplorable. Removed happily by the nature of their profession from the political disturbance, they have suffered doubly from the troubles of the last six years in that, while the demands for their assistance have multiplied immensely, they have been almost deprived of medical supplies: indeed, even of the necessities of life. They not only lack the barest necessities of food and clothing, but are terribly in need of drugs, medical and surgical instruments, and of books and journals.

The Quakers are in a position to assure American physicians who are willing to assist their Russian colleagues that distributions will be promptly and efficiently made in Russia. Literature will be distributed in cooperation with the Russian Health Department through notices printed in the official bulletin, to the effect that medical literature in English is available and can be had on request. The Quaker relief workers will directly supervise the distribution of this material to Russian hospitals, medical schools and individual physicians.

If every one of us would make his personal effort to help to send such money and clothes as he can, and to send files of journals which he himself does not use, as well as such medical books and instruments as he can spare, it would be an immense help.

It's not a charity; it's a duty.

W. S. Thayer, M.D., Baltimore.

[Note.—The American Friends Service Committee has two warehouses: 108 Dobbin Street, Brooklyn, and 1521 Cherry Street, Philadelphia. Physicians can send to either of these at their own convenience. It is requested that those who do not care to assume the expense of forwarding books and instruments will communicate with the American Medical Aid for Russia, 103 Park Avenue, New York, estimating the bulk and probable cost of shipment of the proposed donation.—Ed.]

"THE INTRACARDIAC INJECTION OF EPINEPHRIN"

To the Editor:—The editorial on "The Intracardiac Injection of Epinephrin" (The Journal, May 5) is very timely and of considerable interest.

April 4, 1923, I was called to see a woman living 7 miles in the country. About the time I got in the house she died from an attack of angina pectoris; at least, the heart had stopped, and she gasped for the last time. The daughter was notifying the relatives over the telephone that the mother had just died, but in the meantime I gave her an injection of epinephrin, 1 c.c., as described in the editorial, and in a few minutes she rallied and is alive and well today.

I had a patient die just the other day in the hospital in just the same way, while the nurse was trying to reach me over the telephone; so it seems to me that it should be a part of the nurse's training to give these injections when the physician cannot be reached, before that "intangible thing known as the spirit has passed away."

J. R. Bridges, M.D., Kahoka, Mo.

"NEW ANESTHETICS: ETHYLENE AND ACETYLENE"

To the Editor:—Your editorial (May 12, 1923, p. 1383) called our attention to some early work on ethylene. Twice in the progress of our own work (spring, 1918, and summer, 1922) we made, as we thought, a thorough search of the literature for possible references to ethylene, assisted the last time by an expert medical librarian. Unfortunately we failed to find this bibliography. We cannot understand why these early results which, according to the editorial statements, seemed so promising, failed to stimulate the original authors or the later pharmacologists and anesthetists to extend the work during the intervening thirty-eight years as we have done; perhaps their interest was in an investigation of the probable toxic and not the anesthetic properties of ethylene.

A. B. Luckhardt, M.D.,
J. B. Carter, M.S.,
Chicago.

Increase of Typhoid Fever in Manila.—Typhoid fever, says Dr. Proceso Gabriel (*Rev. de Med. y Farm.*, January, 1923) has shown a steady increase in Manila during the last few years. From an average death rate of 20.73 per hundred thousand in 1911-1913, mortality increased to 50.94 in 1914, 83.91 in 1918 and 102.60 in 1920. In 1921 and 1922, the increase persisted. Artesian wells, flies, stables, unsanitary restaurants, together with the practice of filling hollows with refuse, are said to be the cause.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

"DIAGNOSIS OF RABIES"

To the Editor:—I have been much interested in reading the query on the diagnosis of rabies (THE JOURNAL, May 5, p. 1333).

A boy, aged 10, who had been in good health, was brought to me for advice, May 4. On the preceding day, while on his way to school, he was bitten in two places, on the back and on the palm of the right hand. Although there was some laceration in both wounds, neither of them showed penetration, and the wounds were not opposite. The boy went to a neighbor's, who washed his haud; and, having dried it, applied tincture of iodin freely and put on a roller bandage. When I saw the patient next day, about twenty-four hours after the injury, there was a slight swelling, barely perceptible, and the boy said he felt well, except that he had vomited that morning before breakfast, which was unusual. There was no fever. As I am under the impression, having read it in an excellent work, that it requires six hours for infection to break down the wall of lymphatic resistance (if there is infection), and feeling the futility of opening up the wounds and cauterizing with fuming nitric acid, I again painted the healing wounds with compound tincture of iodin and gave instructions that they be painted with iodin twice a day for a week, and the outcome reported. The dog had had a reputation for being vicious for a long time, and I advised that the animal be kept under observation, but not confined. I did this because one of the neighbors, a single man, told me that he intended to have the animal killed at once, before the dog could do any more damage. I advised him not to kill the dog until the danger period was past, but I advised him that if the dog was killed, to decapitate it, pack the head in ice, and have it sent to a first class laboratory for diagnosis. 1. Did I omit any therapeutic agent that may be of benefit to this patient? 2. Is there an antitoxin or any other agent that I might use now that could be of benefit to this patient?

M.D., Minnesota.

ANSWER.—It is not apparent that anything of benefit to the patient has been omitted in this case except, of course, the use of antirabic vaccine. In a case of this kind, in which there is doubt whether the dog in question is rabic, it is always difficult to decide whether to submit the bitten person to a course of antirabic vaccinations or not. It would seem best in all cases in which there is a possibility that the dog may be mad to follow the rule of "safety first," and that means the injection of antirabic vaccine. There is no other treatment of any kind, antitoxic or otherwise, that is known to have any influence on the development of rabies from the bite of infected animals.

THE RECORDING OF VISION

To the Editor:—In the medical certificate of the U. S. Civil Service Commission's application blank there appear these directions in testing for vision: Question 3:

"Vision: Test both eyes, near and distant, using, if possible, Snellen's types.

O. D.—Near $\frac{}{20}$; distant $\frac{}{20}$, O. S. near $\frac{}{20}$; distant $\frac{}{20}$."

Not being familiar with this method of recording the near vision or of using the figure 20 as the denominator in recording the distant vision, I will thank you for this information.

C. A. KISSINGER, M.D., Melrose, Wis.

ANSWER.—This is either a printer's error or else a statement by a layman, ophthalmologically speaking. Near vision is invariably recorded in terms of Snellen or Jaeger type (Sn 1, 2, 3, etc., or Jg 1, 2, 3, etc.). More recently, the Committee on Compensation for Eye Injuries of the Section on Ophthalmology of the American Medical Association has introduced a method of recording near vision, based on the ability to perceive characters at 14 inches, the normal being one that subtends an angle of 5 minutes on the retina. This method uses the ratio of 14/14, 14/28, 14/35, etc.

When Snellen introduced the present method of recording distant vision, he did not intend that the ratio expressed by 20/20 should be considered as a fraction. The first number (so-called numerator) indicates the distance in feet at which the test is being made. The second number (so-called denominator) indicates the smallest character that can be perceived at that distance, the normal being a character that subtends a 5 minute angle on the retina and whose component parts subtend a 1 minute angle. Thus, if 20/20 indicates the normal, 20/40 would indicate that the subject could perceive at 20 feet a character that a normal vision could discern at 40 feet.

By an inversion of the process, the second number (so-called denominator) may be made the constant. The normal character, indicating vision of 20/20, is used and the distance between the person under examination and the test letter is varied. Thus, 10/20 would indicate that the subject could see only at 10 feet distance a character that the normal person should be able to perceive at 20 feet. This method of testing is rather uncertain, and has fallen into disuse.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

DELAWARE: Wilmington, June 19-21. Sec., Dr. P. S. Downs, Dover.
FLORIDA: Daytona Beach, June 11-12. Sec., Dr. W. M. Rowlett, Tampa.
GEORGIA: Atlanta, June 6-8. Sec., Dr. C. T. Nolan, Marietta.
ILLINOIS: Chicago, June 18. Supt., Mr. V. C. Michels, Springfield.
IOWA: Iowa City, May 31-June 2. Sec., Dr. Rodney P. Fagen, Capitol Bldg., Des Moines.
KANSAS: Kansas City, June 19. Sec., Dr. Albert S. Ross, Sabetha.
KENTUCKY: Louisville, June 12. Sec., Dr. A. T. McCormack, State Board of Health Bldg., Louisville.
LOUISIANA: New Orleans, June 7-9. Sec., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.
MICHIGAN: Ann Arbor, June 12. Sec., Dr. Beverly D. Harison, 601 Stroh Bldg., Detroit.
MINNESOTA: Minneapolis, June 5-7. Sec., Dr. Thomas McDavitt, Lowry Bldg., St. Paul.
MISSISSIPPI: Jackson, June 13-14. Sec., Dr. W. S. Leathers, University.
NEBRASKA: Lincoln, June 6-8. Sec., Mr. H. H. Antles, State House, Lincoln.
NEW JERSEY: Trenton, June 19-20. Sec., Dr. Alexander MacAlister, State House, Trenton.
NORTH CAROLINA: Raleigh, June 25-29. Sec., Dr. Kemp P. B. Bonner, Raleigh.
OHIO: Columbus, June 5-8. Sec., Dr. H. M. Platter, Hartman Hotel Bldg., Columbus.
SOUTH CAROLINA: Columbia, June 26. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.
TEXAS: Austin, June 19-21. Sec., Dr. T. J. Crowe, Dallas County Bank Bldg.
VERMONT: Burlington, June 20-22. Sec., Dr. W. Scott Nay, Underhill.
VIRGINIA: Richmond, June 19-22. Sec., Dr. J. W. Preston, 720 Anchor Bldg., Roancke.
WASHINGTON: Seattle, June 19. Sec., Mr. Wm. Melville, Olympia.
WISCONSIN: Milwaukee, June 26-28. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

THE EDUCATION OF THE PARTIALLY TRAINED SANITARIAN NOW EMPLOYED

FREDERICK W. SEARS, M.D.
Associate Professor of Hygiene and Preventive Medicine, Syracuse University College of Medicine
SYRACUSE, N. Y.

The education of the partially trained sanitarians now employed should be considered from its practical rather than from its theoretical side. It is quite impossible to make any radical change without first securing favorable public sentiment. Home rule is a firmly established principle in rural communities and must be kept in mind in bringing about these changes. We should not make a course of instruction so comprehensive as to be prohibitive or unattractive to the local health officer, as we must rely largely on his efforts to bring about the desired change in public sentiment.

PRESENT STATUS

One of the greatest obstacles to progress in public health work in rural communities is the conception by the public of what the duties of the health officer are. Some boards of health regard the health officer as a medical policeman who should function only during an epidemic, his compensation being in accordance with his activities during such time. It has been only within a comparatively few years that this attitude has been to any extent changed. Securing adequately paid, well-trained health officers under such conditions is practically impossible. The great majority of health officers are practicing physicians whose salaries as health officers are a small fraction of their incomes. Many of them have accepted the office from a sense of duty to their community, some of them with the feeling that the duties of

the office will be so slight as not to interfere materially with their practice. I have found the majority of them eager to improve their knowledge in public health matters.

The conditions under which most health officers have been expected to produce results have been most discouraging. They are underpaid and are given no financial resources for health activities; they are appreciated by the community and their board of health for what they do not do rather than for efficient service; they are isolated from those of similar interests, with little or no opportunity given them to keep in touch with the newer methods and facilities of preventive medicine. Insufficient knowledge of laboratory methods has given rise to misundestandings and doubts as to the value of the laboratory. Efficient service can come only from self-confidence inspired by a knowledge of one's subject. It is only by efficiency that we can gain the confidence of the public and the respect of the physicians for our official positions. No matter how conscientious a public health worker may be, his enthusiasm soon wanes if he is conscious that his work is not appreciated.

In the recent past the majority of health officers have been selected for their political activities rather than for their fitness for the position, and the office is still regarded by some local boards as a political plum which should be passed around. The greatest factor in bringing about a complete change in sentiment is the personality of the health officer. If he can be brought to realize the great significance of preventive medicine and can bring it to the attention of his community by showing practical results, he will be able not only to secure more adequate compensation and funds for his work, but also to place his tenure of office beyond the dickerings of politicians.

THE IDEAL HEALTH OFFICER

The health officer should be regarded by his community as a specialist in public health and hygiene. In order to meet the dignity of his position, his knowledge of public health subjects should be broad and comprehensive. His selection to office should be made solely in regard to his fitness. His duties should not be the perfunctory ones of a sanitary policeman, who is often regarded by the public as a worse menace than the disease which he quarantines. He should be entrusted with the giving of instructions as to the methods to be adopted in preventing the spread of disease—a function which the family physician too frequently assumes. Misunderstandings frequently arise from such an assumption. The attending physician should seek the health officer's advice in matters pertaining to health regulations in the same spirit in which he would seek the advice of the consulting surgeon or internist.

Through a better knowledge of public health, the work of the health officer should impress itself on the municipality in a manner sufficient to command cooperation and assistance from all civic societies and organizations. His visits to the afflicted home should be looked on as that of a wise counselor and friend, and not as that of a heartless official to be dreaded. This will secure more prompt reporting of disease by the family. To secure such recognition he must possess certain qualifications of character and education which will command the respect of the entire community.

The health officer should be prepared to answer promptly and intelligently all questions relating to the fundamental principles underlying public health work, when such advice is asked by the local physicians. His knowledge of epidemiology should be sufficient to enable him to meet effectually all outbreaks of disease and, so far as possible, to trace them to their source.

The question naturally arises, "How can the health officer secure such qualifications without too great a sacrifice of time and money?" When we consider the meagerness of his salary in proportion to his income from private practice, we are but little surprised at the query so commonly expressed, "How can I afford to do it?"

TRAINING THE HEALTH OFFICER

We must furnish the health officer with a course which will afford him these opportunities with the least possible loss of time from his regular practice. It must be of such a character that its teachings will be of the highest value to him as a practitioner in medical lines which are closely allied to public health work. Our aim should be to open up to him the broader fields which he can cultivate by future reading. It would require years of training to qualify a physician as a specialist in bacteriology, but he can acquire in a comparatively short time the fundamental principles of laboratory work and laboratory methods which will enable him to appreciate their limitations and the wonderful assistance to be obtained from them when they are properly understood.

The health officer should, in a general way, know the principles which govern the growth and propagation of bacteria, something of their morphology, selective staining, and the difficulties encountered by the bacteriologist when specimens are improperly collected, tabulated and dispatched to his laboratory. He should have some knowledge of the methods used in isolating pure cultures and for what purposes they are isolated. He should know what is meant by "dark field illumination" in the diagnosis of certain diseases; the principles underlying agglutination tests and complement fixation; and the methods of ascertaining the various types of pneumonia for the purpose of serum treatment. He should understand some of the underlying principles of immunity, both active and passive, and the great value of immune serums when administered properly. He should understand in a general way the phenomenon of anaphylaxis and the dangers of administering large amounts of foreign proteins without suitable precautions, and the effects of horse serum products on asthmatic patients.

He should have some knowledge of vaccine therapy and its precautions. He should understand the difference between vaccines and immune serums. He should have a general knowledge of the production of diphtheria antitoxin, its standardization, dosage and administration under varying conditions; how Vincent's angina can be distinguished from diphtheria; what we mean by the Schick test and its application; what the toxin-antitoxin method of immunization against diphtheria is; how to secure blood for the Wassermann test and other similar reactions; what spinal puncture is and its importance as a diagnostic and therapeutic measure in certain meningeal affections. To my mind, the knowledge of these various phenomena cannot be obtained without practical demonstrations and conferences with competent teachers; reading alone is totally inadequate.

If this work is to be taught effectually, the class must be limited in numbers, and we must have only teachers who are practical and who have the enthusiasm and personality which will bring out the difficult points through personal questioning, explanations and painstaking demonstrations. The same methods should be used in demonstrating other phases of the work. Practical demonstrations should be given in the early diagnosis of tuberculosis by the best specialists obtainable in this line of work. The class should be shown that sanatorium control of this disease should be both educational and for the arrest of the progress of the disease.

The student should be familiar with the treatment of venereal diseases, and have practical demonstrations in the administration of their remedies and, so far as possible, be

taught the technic of intravenous therapy by actual demonstration. The same practical methods should be used in demonstrating school examinations, school inspections and the problems underlying its various branches. He should be shown open-air schools in operation. He should be taught the value of substituting industrial teaching for the atypical and backward pupils. He should be taught industrial hygiene, and personal hygiene in the handling of foods. He should visit certified dairies, milk pasteurization plants and ice cream factories, and should be shown the methods used in scoring dairies by men of experience.

He should visit hospitals for communicable diseases and observe these diseases in their various manifestations throughout their course. He should be taught the rôle of the disease carrier in the spread of disease, and how best to protect the public from them with the least amount of hardship to the afflicted family. He should be taught the various methods for the purification of water for municipal purposes, including chlorination and mechanical and slow sand filtration. He should visit sewage disposal plants in operation and the various other municipal health activities. He should be given practical demonstrations in prenatal care and infant welfare work. He should be taught the value of vital statistics and the general laws governing their activities, and he should be well drilled in the requirements of the sanitary code.

The question naturally arises in one's mind, "Is all this possible in so short a course?" Without enthusiasm, cooperation and a determination to succeed, it would be impossible. If a corps of instructors can be secured who will work with little or no remuneration, who have enthusiasm for the work and who can inspire their men with the highest ideals, it is possible.

A SHORT-TERM COURSE

In January, 1916, I submitted to the New York State Public Health Council a plan for a short-term course to meet the conditions outlined above. The plan which was approved by the council consists of combining reading and residence work extending over a period of twelve weeks, two days of each successive week being spent in class work in Syracuse; four or five hours each day being employed in lectures, practical demonstrations and conferences, the spare time of the remainder of the week to be devoted to selective reading, the program being so arranged as to link together correlated subjects. Sufficient opportunity is given the men for conferences among themselves for the purpose of checking up and fixing the subject-matter in their mind. The latter, I believe, is a most essential feature of the course. Only men of broad, practical experience and enthusiasm should be selected as teachers, the selection being made from the university, the municipality and the state health department. A tentative program covering the entire course is issued to the members of the class several weeks before the course begins, and a corrected weekly program a few days in advance. This enables the men to familiarize themselves with the work in hand. The classes are conducted at a season of the year most convenient for the men, and arrangement is made for telephone calls to be received from their homes.

The first course started March 24, 1916, with a class numbering twenty-seven. I have now conducted fourteen classes since that time—twelve in Syracuse in connection with Syracuse University, and two in Ithaca in connection with Cornell University. About 220 health officers from a radius of 80 miles have taken these courses, an average of about fifteen to the class. Four classes on a similar plan have also been conducted in connection with Albany Medical College—two in New York, and two in Buffalo, during the last four years. We are now planning to have a similar course in Rochester the coming spring.

In order to keep up the interest and supplement the activities of those who have taken the course, about four years ago the Central New York Public Health Association was formed, the membership being limited to the graduates and faculty. This association meets annually in Syracuse for a two-day session, and splendid programs have been carried out.

RESULTS

The sacrifice of time in the weekly attendance has, of course, been great, but none have complained. The effect on the morale and efficiency of the health officers can hardly be overestimated. Higher spirit of cooperation was manifested; keener interest and enthusiasm in the development of new activities in their municipalities has been very evident; greater confidence in their own ability to meet their health problems has been shown, also a higher appreciation of the efforts of the state health department in the control of disease. Boards of health have shown greater confidence in the health officers who have taken the courses, as has been manifested by increased remuneration and better cooperation in a large percentage of the municipalities. Many of the local boards have borne the expenses of the course; several of them have increased their per capita compensation; and, in one instance, the salary of the health officer was increased from $150 to $500 per annum.

As a result of the requirements of the New York State Public Health Council, that health officers should have certain qualifications before appointment, there has been less tendency to change the tenure of office of the qualified man. We fully realize that the ideal for which we are working can be accomplished only by the securing of well-paid, full-time county health officers, but until we can create public sentiment and an appreciation by physicians of the great importance of preventive medicine, we must use the material at hand, not only to meet our present health situation, but in order to stimulate the public to a better appreciation of public health work.

Pennsylvania January and February Examination

Mr. C. D. Koch, preliminary examiner, Pennsylvania Bureau of Medical Education and Licensure, reports the written and practical examination held at Philadelphia, Jan. 30-Feb. 3, 1923. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 43 candidates examined, 39 passed and 4 failed. The following colleges were represented:

College	Year Grad.	Number Licensed
PASSED		
Howard University	(1920), (1921)	2
University of Louisville	(1911)	1
Johns Hopkins University	(1920)	1
Boston University	(1921)	1
Harvard University	(1922)	1
Tufts College Medical School	(1907)	1
Detroit College of Medicine and Surgery	(1921)	1
University of Michigan Homeopathic Medical School	(1921)	1
University of Michigan Medical School	(1900), (1921)	2
Cornell University	(1920)	1
New York Homeo. Med. College and Flower Hospital	(1910)	1
University and Bellevue Hospital Medical College	(1921)	1
Hahnemann Med. Coll and Hospital of Philadelphia	(1921)	5
Jefferson Medical College of Philadelphia	(1921)	4
Temple University	(1921)	3
University of Pennsylvania	(1920, 3), (1921, 4)	7
Woman's Medical College of Pennsylvania	(1921)	1
Laval University, Faculty of Medicine	(1903)	1
University of Manitoba	(1919)	1
Imperial University, St. Petersburg, Russia	(1911)*	1
University of Berne, Switzerland	(1919)*	1
University of Geneva, Switzerland	(1907)	1
FAILED		
Howard University	(1920)	1
University of Louisville	(1910)	1
Baltimore Medical College	(1897)	1
Ohio Medical University	(1898)	1

* Graduation cannot be verified.

Book Notices

AN INDEX OF PROGNOSIS AND END-RESULTS OF TREATMENT. By Various Writers. Edited by A. Rendle Short, M.D., B.S., F.R.C.S., Lecturer in Physiology at the University of Bristol. Third edition. Cloth. Price, $12 net. Pp. 594. New York: William Wood & Co., 1922.

The last previous edition of this book appeared in 1915. It contains in alphabetical order discussions of the prognosis for life and for health in various diseases. It represents a compilation of a large amount of material by men especially competent to judge the value of the statistics and literature considered. Practically all of the well known English clinicians have cooperated in the preparation of this book. Of particular interest are the sections on anesthesia and appendicitis. The authors adopt the point of view that the appendicitis operation is far less serious than any possible delay. It is interesting to note that the English experience agrees with that of the United States in regard to epidemic encephalitis, namely, that in the majority of cases there is left behind some persistent sign of nuclear disease. A long section on the mental diseases has been thoroughly worked out by the late T. S. Clouston. In the discussion of congenital pyloric stenosis, the author has neglected to include the most important American operative figures, namely, those of Downes and Strauss, which show a far smaller mortality than the 25 to 50 per cent. mortality which apparently exists in England.

SELECTED PAPERS AND ADDRESSES. By William Williams Keen, M.D., LL.D., Emeritus Professor of Surgery, Jefferson Medical College of Philadelphia. Cloth. Pp. 340. Philadelphia: George W. Jacobs & Co., 1923.

Over a period of many years Dr. W. W. Keen has served the profession and the public, interpreting the science of medicine to the public, and helping the medical profession to take account of itself. It was a happy idea for him to gather in one volume some of his most significant addresses. Practically all of the papers appearing in this book have been previously published in periodicals. It is unnecessary to state that the literary style of Dr. Keen is simple, direct and easily followed. Certain of the incidents recounted could have been told only by Dr. Keen, since in some instances he was the only American or the only physician present. Some of the addresses carry us back to the medicine of the prescientific era; thus, the sketch "Before and After Lister." Such essays as the "Graduation Ceremony" and the "Early Years of Brown University" have a wide general educational appeal. The book is printed in large type on good paper, and is a worthy addition to any medical library that is not confined exclusively to technical publications.

DIE SYPHILIS DES ZENTRALNERVENSYSTEMS, IHRE URSACHEN UND BEHANDLUNG. Von Professor Dr. Wilhelm Gennerich. Second edition. Paper. Price, $1.80. Pp. 295. Berlin: Julius Springer, 1922.

The first edition of this important monograph appeared in 1921, and was reviewed in these columns. While Nonne's still larger monograph deals chiefly with pathology and symptomatology, Gennerich's work is centered on the treatment. He is a strong advocate of the intraspinal method. The new edition contains some additions, especially regarding the technic of intraspinal injections, and a brief discussion of the treatment of paresis and tabes by inoculation of malaria or relapsing fever.

CONTRIBUTION À L'ÉTUDE DES MANIFESTATIONS TARDIVES DE L'ENCÉPHALITE ÉPIDEMIQUE. (Formes prolongées et reprises tardives). Syndrome Excito Moteur — Syndrome Parkinsonien Forme Respiratoire — Forme Insomnique et Hypomaniaque de l'Enfant. Par le Docteur Gabrielle Lévy. Paper. Pp. 312, with 53 illustrations. Paris: Vigot Frères, 1922.

This is a Paris thesis by a pupil of Pierre Marie, and it is based on 129 cases observed in his service in the Salpêtrière. This master clinician has published comparatively little on encephalitis under his own name, and for that reason this thesis, of which Marie is "president," assumes great importance as it no doubt expresses his views and records observations controlled by him. It will be recalled that Marie in similar manner allowed his pupils to publish the details of his epoch-making work on acromegaly and aphasia. Seventy cases presented the parkinsonian syndrome, and forty-three various excitomotor syndromes, such as choreic and myoclonic. Sixty-eight cases are given in detail. Four of the late cases were also studied histologically. Altogether, this thesis is a gold mine of information on this timely subject.

EUGENICS, GENETICS AND THE FAMILY. Volume I, Scientific Papers of the Second International Congress of Eugenics. Committee on Publication: Charles B. Davenport, Chairman, Henry Fairfield Osborn, Ex Officio, Clark Wissler, and H. H. Laughlin, Secretary. Cloth. $6. Pp. 439, with 24 illustrations. Baltimore: Williams & Wilkins Company, 1923.

EUGENICS IN RACE AND STATE. Volume II, Scientific Papers of the Second International Congress of Eugenics. Committee on Publication: Charles B. Davenport, Chairman, Henry Fairfield Osborn, Ex Officio, Clark Wissler, and H. H. Laughlin, Secretary. Cloth. Price, $6. Pp. 472, with 20 illustrations. Baltimore: Williams & Wilkins Company, 1923.

The essays in these two volumes comprise the scientific papers delivered at the second international congress of eugenics, held in New York City in 1921. Three addresses, by Osborne, Darwin and Davenport, are written particularly for the public. The scientific papers are technical in character, and cover the entire field of heredity and family studies. These papers indicate that the scientific study of inheritance has traveled a long road during the last twenty years. Such questions as the genesis of twins, disturbances in development produced by radium, inheritance of cancer, eye defects and mental disorders, the effects of inbreeding, race mixture, religious intermarriage, eugenic reform and similar problems have an interest that is not the problem of any one field of science but the equal problem of every branch of biology. In the two volumes are included 108 papers of an authoritative and serious character. For those wishing the last word on the problems discussed, no better source can be recommended.

OXIDATIONS AND REDUCTIONS IN THE ANIMAL BODY. By H. D. Dakin, D.Sc., F.I.C., F.R.S. Second edition. Boards. Price, $2 net. Pp. 176. New York: Longmans Green & Co., 1922.

Ten years have passed since Dakin's first publication of this book, during which time we have learned much more about oxidation, despite the fact that most of the fundamental problems remain unanswered. There is some consolation in this statement in the preface: "Perhaps when it is recalled that the pure chemist is still debating as to what really happens when carbon monoxide burns in oxygen, the biochemist may not feel so dissatisfied with the modest progress that has been made in elucidating biochemical oxidations." The scope of the book remains unchanged. It differs from the first edition entirely in the addition of newer materials, which have increased the volume nearly one third. The chief advances have been made in the study of carbohydrate oxidations, this chapter having been rewritten. It is to be expected that the present activities stimulated by the discovery of insulin will add much more to this subject in a short time. There is an extensive bibliography, and the monograph is of inestimable value as an accurate critical summary of our present knowledge concerning biochemical oxidations, which are, of course, the fundamental source of all manifestations of living energy. The only adverse criticism that can be made is that typographic errors are more numerous than one is accustomed to note in works of this class.

A MANUAL OF DISEASES OF THE NOSE AND THROAT. By Cornelius G. Coakley, A.M., M.D., F.A.C.S., Professor of Laryngology and Otology in the College of Physicians and Surgeons, Columbia University. Sixth edition. Cloth. Price, $4.25. Pp. 664, with 152 illustrations. Philadelphia: Lea & Febiger, 1922.

As the name implies, this book briefly and compactly covers the practical features of examination, diagnosis and treatment of nose and throat diseases, and is designed primarily for students and practitioners. The present edition has been augmented by articles on sinusitis in children, Vincent's angina, parapharyngeal abscess, and direct laryngoscopy and esophagoscopy. The author has made every effort to bring the text up to date and, in view of the size of the book, has achieved considerable success. The volume is attractively illustrated, and is very readable in its limited scope.

Medicolegal

Insufficient Evidence that Accident Caused Cancer

(Green et al. v. Locomotive Engineers' Mut. Life & Accident Ins. Ass'n (Iowa), 190 N. W. R. 934)

The Supreme Court of Iowa, in reversing a judgment that was rendered in favor of the beneficiaries of a policy of accident insurance, says that the insured was a locomotive engineer. August 1, while he was attempting to pass from the deck of an engine to his seat in the cab, his foot slipped and he struck his side against the seat. The only trip that he made after that was on August 3. Some time early in that month he consulted a physician, who testified that he found no external evidence of injury, although he said that the insured had told him that he had had an accident. Not very long afterward, the ailment was diagnosed as cancer of the kidney. The patient died, December 1, and a necropsy revealed the cancer which, it was conceded, was the cause of death. The plaintiffs contended that the accident caused the cancer. The medical experts expressed the opinion, in answer to a hypothetic question, and also gave it as their judgment, that a cancer might be produced by a blow or injury, but they were about equally emphatic in their statements that it might result from the position assumed by a locomotive engineer while sitting on the seat in the cab. No expert testimony was offered by the defendant. It seems to the court that the evidence offered by the plaintiffs was so indefinite, uncertain and speculative in its character that the court could not say that it preponderated in favor of the plaintiffs' theory. The probabilities in favor of the plaintiffs did not outweigh the opposite probabilities, and the testimony was not at all convincing.

Construction of Law as to Privileged Communications

(Myers v. State (Ind.), 137 N. E. R. 547)

The Supreme Court of Indiana, in reversing a judgment of conviction of manslaughter in this case, in whcih a wife was charged with killing her husband, says that by the statute of that state "physicians, as to matters communicated to them, as such, by patients, in the course of their professional business, or advice given in such cases," are privileged, except by consent of the patient. This statute, being in derogation of the common law, under all rules of statutory construction should not be enlarged by intendment to include as privileged information entirely aside from that necessary to communicate to enable the physician or surgeon to act or prescribe. However, contrary to the strict rules for construing statutes, the one in question has been somewhat broadened to include, as privileged, not only communications by the patient to his physician, but any other information the physician may obtain from a physicial examination of the patient, or by observation while in the discharge of his professional duty, or knowledge gained through the intervention of a third party, with a view to intelligent treatment. And, according to the decisions of some courts, the words "matters communicated," as used in the statute to cover privileged information, may be defined as information obtained in the sickroom, heard or observed by the physician, or of which he is otherwise informed, pertaining to the patient, and on which he is persuaded to do some act or give some direction or advice in the discharge of his professional obligation.

In this case a physician whom the defendant called as a witness was asked what, on a certain occasion when he was leaving a room of the dwelling occupied by the defendant's husband, he heard the husband say. The offer to prove was, "I will get her yet." The objection was interposed that "anything he learned there was on account of his confidential relation," and the evidence was excluded on the ground that the witness was there in the capacity of a physician, and that "what transpired there was all in the scope of his professional employment." It appeared that, after examining and treating the man, the physician departed from the sickroom, but while he was in the hall or a room adjoining the sickroom, he heard the patient use the language excluded by the trial court. Under this state of the evidence it could not reasonably be maintained that the statements proposed by the witness tended to reveal that which should be kept inviolate, nor were they such as would enable him to give advice, treat or prescribe for the patient, nor could it be said that they were intended for him. The question of privilege, under this showing, did not depend on inferences to be drawn from testimony. It was not, therefore, a question of fact, but one of law. Competence to testify and competence of evidence are questions for the court, with the recurring thought that incompetence is the exception. With these general principles in mind, the supreme court is clearly of the opinion that the statute should not be extended to cover as privileged the excluded testimony, although there are expressions in the books seemingly broadening the literal meaning of the words thus employed.

The general rule governing privileged communications between attorney and client is applicable to physician and patient; and with respect to this rule this court has said that "to come under the protection of the rule, in question, the communications claimed to be privileged must be addressed to an attorney in his professional character of a legal adviser, with a view to legal advice which as an attorney it was his duty to give." The offered evidence should have been admitted.

Right of Injured Employee to Choose Own Physician

(Lading v. City of Duluth (Minn.), 190 N. W. R. 981)

The Supreme Court of Minnesota says that the plaintiff, while in the performance of his duties as a policeman in the service of the defendant city, was shot in the arm. He called a physician of his own selection to treat him, and afterward sought to recover in this proceeding under the workmen's compensation act the reasonable value of the services of the physician. The city resisted on the ground that, since the regular city physician was subject to the call of the plaintiff, to his knowledge, he, having elected to secure the services of another, was not entitled to reimbursement. The statute referred to, which controlled the issues, provides that the employer shall furnish the injured employee such medical, surgical and hospital treatment as may be reasonably required at the time of the injury, and during the disability thus created, not exceeding ninety days or $100 in value; "and in case of his inability or refusal seasonably to do so, the employer shall be liable for the reasonable expense incurred by or on behalf of the employee in providing the same."

The statute is clear and unambiguous, and imposes on the employer the obligation to furnish medical aid to an injured employee to the extent therein stated; and, if he is unable, or refuses to do so, imposes liability for the reasonable value of the services rendered by a physician employed by or on behalf of the injured employee. To justify a recovery of the reasonable value of the services of a physician called by the employee, it must appear either that the employer was unable to furnish one, or that he refused to do so. Of this the statute leaves no doubt. But the requirements of the statute were not met by the plaintiff. There could be no claim that the city was unable to furnish the needed medical attention. A physician was in its employ for the purpose of responding to cases of the kind, and his services were available to the plaintiff. Nor was there any showing of a request by the plaintiff for his services, and no occasion was presented for volunteer action on his part. There was therefore no refusal by the city to furnish the necessary medical attention. The plaintiff voluntarily chose his own physician, on the apparent theory that he had the right to do so at the expense of the city. He proceeded advisedly in the matter, for his injury was not of a character to render him mentally incompetent.

It followed, then, that the plaintiff was not entitled to recover the reasonable value of the services of the physician so called. But the court is of the opinion that the statute should not be construed to impose on the employee the unqualified obligation to accept the physician selected by the employer, or forfeit the right of reimbursement there given. It often happens—a situation perhaps more or less general—that the employee has a family physician to whom he prefers

to turn in case of injury or sickness, rather than to accept the services of another with whom he has no acquaintance, or in whom, perchance, he has no confidence. In that situation he should have the option or unquestioned right to choose his medical attendant or accept the one tendered him by the employer, but within the limits of liability on the part of the employer imposed by the statute. The statute contains no language unconditionally requiring the employee to accept unconditionally the physician tendered him, or relinquish the right of reimbursement altogether; and this court construes it to give him an option, and, when exercised in good faith, to entitle him to reimbursement to the extent provided by the statute.

The fact that the employer in this case was a municipal corporation and employed a physician for all such cases, paying him a fixed salary, could not alter the construction given the statute; nor could that be made to apply to different employers in a different degree of liability. It is susceptible of one construction, applicable alike to all employers, municipal corporation or individual. It followed that the plaintiff was entitled to reimbursement for the services of the physician called by him to the extent of $100, and no more.

The court applies the doctrine of this case to the case of *Bookman* v. *Lyle Culvert & Road Equipment Company*, 190 N. W. 984, holding that under a prior statute, which contained a provision similar to this one, an employee engaging her own physician could recover the reasonable expense incurred to the amount of $100.

Obligation to Pay Physician's Bill Implied

(Stoudemire v. Davis (Ala.), 94 So. R. 498)

The Supreme Court of Alabama, in affirming a judgment in favor of plaintiff Davis for damages for personal injuries inflicted by the defendant's automobile, says that exception was taken to an instruction to the jury with regard to the plaintiff's right to recover the amount of medical expense resulting from his injury. But there was at least an implied obligation on his part, he being then an adult, to pay the physician's bill, shown to be reasonable for the service rendered him; hence such liability therefor by the plaintiff as to justify the recovery of the amount if, of course, the plaintiff was otherwise found entitled to judgment for the injury suffered. The fact that his father sent for the physician did not conclude against the plaintiff's implied liability to pay for these professional services to him.

Total Disability from Fracture—Injury to Old Man

(Clark v. Clearfield Opera House Company et al. (Pa.), 119 Atl. R. 136)

The Supreme Court of Pennsylvania, in affirming on order making an award for total disability under the workmen's compensation act, says that the claimant, who was 79 years of age, was suffering from an ununited fracture of the neck of the left femur, in that part of the bone that formed the hip joint, known as an intracapsular fracture. The employer and insurance carrier contended that this was a permanent injury, causing the loss of the use of a leg. It was a permanent injury, but it covered a wider area and extended beyond the leg proper. The injury affected the physical structure of the body in a manner that does not normally follow accidents of this character, when the bones unite. It involved the leg and the hip joint, and was attended with unusual pain and suffering in the region of and above the hip joint when the claimant sat down, lay down, or changed position. He was not able to dress or bathe himself, get into bed, or attend to his bodily requirements without assistance. This was a direct result of the permanent injury, with a direct relation to it and a causal connection beyond any disability, disadvantage or suffering that would ordinarily come from the loss of a leg. The physical structure of the body (the hip joint and parts above) was affected through the nerves, tissue, blood supply, muscles, bony tissue and other parts that make up the hip joint, not a part of the leg from the joint to the foot. These conditions were not the normal result of the loss of a leg, and when such conditions exist, most unusual in their nature, followed by a disability, they cannot be solely attributed to the permanent or actual loss of the member. If the claimant could undergo an operation, it would be one involving not only the leg but the hip joint as well, incidentally removing one sixth of the body. What further effect it might otherwise have, destroying or injuring the structure, the court does not know; the existing situation showed that a large part of the body was practically useless.

The claimant was found to be totally disabled. This court's conclusion is not influenced because of his age, though humane principles should guide the court in the interpretation of this law. If necessary to sustain the award because the claimant was an old man, predisposed to such accidents, this court would not hesitate to do so, as both employer and insurer must have known that such accidents, with like results, may happen to old men. This court stands, however, on the causal connection between the injured part and the other affected parts of the body as a direct result of the injury.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, San Francisco, June 25-29. Dr. Olin West, 535 N. Dearborn St., Chicago, Secretary.

American Association for Thoracic Surgery, Chicago, May 29-30. Dr. Charles Gordon Heyd, 46 W. 52d Street, New York City, Secretary.

American Association of Anesthetists, San Francisco, June 25-27. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

American Climatological and Clinical Association, Niagara Falls, Ont., May 23-25. Dr. Arthur K. Stone, Framingham Center, Mass., Sec'y.

American Gynecological Society, Hot Springs, Va., May 21-23. Dr. A. H. Curtis, 104 South Michigan Avenue, Chicago, Secretary.

American Ophthalmological Society, Colorado Springs, June 19-21. Dr. T. B. Holloway, 1819 Chestnut Street, Philadelphia, Secretary.

American Orthopedic Association, Rochester, N. Y., June 7-9. Dr. DeForrest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.

American Pediatric Society, French Lick, Ind., May 31-June 2. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Proctologic Society, Los Angeles, June 22-23. Dr. Ralph W. Jackson, 245 Cherry Street, Fall River, Mass., Secretary.

American Radium Society, San Francisco, June 25-26. Dr. Edwin C. Ernst, Humboldt Bldg., St. Louis, Secretary.

American Society of Clinical Pathologists, San Francisco, June 25-26. Dr. Ward Burdick, 652 Metropolitan Bldg., Denver, Secretary.

American Society of Tropical Medicine, San Francisco, June 25-26. Dr. B. H. Ranson, Bureau of Animal Industry, Washington, D. C., Sec'y.

American Therapeutic Society, San Francisco, June 22-23. Dr. Lewis H. Taylor, The Cecil, Washington, D. C., Secretary.

American Urological Association, Rochester, Minn., May 21-23. Dr. H. G. Hamer, 723 Hume-Mansur Bldg., Indianapolis, Ind., Secretary.

Arizona Medical Association, Grand Canyon, June 21-22. Dr. D. F. Harbridge, Goodrich Bldg., Phoenix, Secretary.

Association for the Study of Internal Secretions, San Francisco, June 25. Dr. F. M. Pottenger, Title Insurance Bldg., Los Angeles, Secretary.

California, Medical Society of the State of, San Francisco, June 21-23. Dr. W. E. Musgrave, Balboa Bldg., San Francisco, Secretary.

Connecticut State Medical Society, New Haven, May 23-24. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Maine Medical Association, Houlton, June 5-7. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Massachusetts Medical Society, Pittsfield, June 12-13. Dr. W. L. Burrage, 182 Walnut Street, Brookline 46, Boston, Secretary.

Medical Women's National Association, San Francisco, June 25-26. Dr. M. J. Potter, First National Bank Bldg., San Diego, Calif., Secretary.

Montana, Medical Association of, Butte, July 11-12. Dr. E. G. Balsam, 223 Hart-Albin, Billings, Secretary.

National Tuberculosis Association, Santa Barbara, Calif., June 20-23. Dr. George M. Kober, 370 Seventh Avenue, New York, Secretary.

New Hampshire Medical Society, Concord, May 22-23. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, June 21-23. Dr. William J. Chandler, South Orange, Secretary.

New Mexico Medical Society, Albuquerque, June 19-21. Dr. J. W. Elder, Santa Fe Hospital, Albuquerque, Secretary.

North Dakota State Medical Association, Grand Forks, May 31-June 1. Dr. H. J. Rowe, Lisbon, Secretary.

Oregon State Medical Association, Portland, July 10-11. Dr. C. L. Booth, Selling Bldg., Portland, Acting Secretary.

Pacific Northwest Medical Association, Seattle, June 19-21. Dr. F. Epplen, 422 Paulsen Building, Spokane, Secretary.

Radiological Society of North America, San Francisco, June 21-22. Dr. M. J. Sandborn, Appleton, Wis., Secretary.

Rhode Island Medical Society, Providence, June 7. Dr. I. W. Leech, 369 Broad Street, Providence, Secretary.

Utah State Medical Association, Salt Lake City, June 20-22. Dr. W. L. Rich, Boston Building, Salt Lake City, Secretary.

West Virginia State Medical Association, Beckley, June 12-14. Dr. Robert A. Ashworth, Moundsville, Secretary.

Western Society for the Study of Hay Fever, Asthma and Allergic Diseases, San Francisco, June 25. Dr. A. H. Rowe, Hutchinson Bldg., Oakland, Calif., Secretary.

Wyoming State Medical Society, Laramie, June 20-21. Dr. Earl Whedon, Sheridan, Secretary.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Anatomy, Philadelphia

31: 339-438 (March) 1923

Independence of Mitochondria and Bacillus Radicicola in Root Nodules. E. V. Cowdry, New York.—p. 339.
Pubic Symphysis of Guinea-Pig in Relation to Pregnancy and Parturition. T. W. Todd, Cleveland.—p. 345.
Two European Types. R. B. Bean, Charlottesville, Va.—p. 359.
Development of Primitive Reptilian Vertebral Column, as Shown by Study of Alligator Mississippiensis. G. M. Higgins, Galesburg, Ill. —p. 373.
Development of Metanephric Anlage of Chick in Allantoic Grafts. R. R. Atterbury, New York.—p. 409.

American Journal of Hygiene, Baltimore

3: 99-180 (March) 1923

*Pathologic Anatomy of Ophthalmia Produced by Diets Containing Fat Soluble A Vitamin, but Unfavorable Contents of Certain Inorganic Elements. S. Mori, Dairen, Manchuria.—p. 99.
*Whole Culture Method of Testing Virulence of Diphtheria Bacilli. C. G. Bull, and C. M. McKee, Baltimore.—p. 103.
*Biologic Study of Diphtheria Bacillus. H. M. Powell, Baltimore.—p. 109.
*Anopheline Mosquitoes of Siam. M. E. Barnes, Bangkok, Siam.—p. 121.
Control of Hookworm Disease. XVI. Variation in Length of Life of Hookworm Larvae from Stools of Different Individuals. D. L. Augustine, Baltimore.—p. 127.
*Control of Hookworm Disease. XVII. A Quantitative Study Defining Point of Breakdown of Hookworm Eggs Cultured in Feces, and Its Association with Intense Acidity. N. R. Stoll, Baltimore.—p. 137.
*Control of Hookworm Disease. XVIII. Relation Between Number of Eggs Found in Human Feces and Number of Hookworms in Host. N. R. Stoll, Baltimore.—p. 156.
Effects of Changes in Diet on Incidence, Distribution and Numbers of Certain Intestinal Protozoa of Rats. R. W. Hegner, Baltimore.—p. 180.

Ophthalmia of Dietetic Origin.—Xerophthalmia and keratomalacia were produced by Mori in rats by feeding them diets deficient in fat soluble A vitamin. The same changes may also result from the consumption of diets which have an abundant supply of fat soluble A vitamin, but which contain certain unfavorable salt mixtures. The two conditions are clinically and pathologically identical and are identical with human xerophthalmia and keratomalacia. It would seem from this experiment that in cases of xerophthalmia in human beings other factors than fat soluble A vitamin may have to be considered in regard to the etiology and treatment of the condition.

Testing Virulence of Diphtheria Bacilli.—Havens, Powell, Force and Beattie recently described the whole culture virulence test for diphtheria bacilli. The chief value of the method lies in the fact that virulence tests can be made with the original diagnostic culture, eliminating the necessity of isolating pure cultures, and this is representative of the whole culture instead of one or two colonies selected at random from plates made from the diagnostic culture. It also makes it possible to make virulence tests on cultures from which it is not possible to isolate pure strains. The observations made by Bull and McKee are based on 3,995 combined nose and throat cultures made from children. One hundred and ninety-eight of the cultures were tested for the presence of virulent diphtheria organisms by the whole culture method. On the basis of morphology, eighty-two of these cultures were diagnosed as unqualifiedly positive, thirty-seven were questionably positive and seventy-nine were questionably negative. These observations complement those of Havens and Powell.

Biologic Study of Diphtheria Bacillus.—During two years' time, covering about fifty generations, no detectable change in the property of virulence occurred among more than 300 strains of *Bacillus diphtheriae* which were propagated by Powell on Loeffler's serum medium.

Anopheline Mosquitoes of Siam.—No previously undescribed species of anopheline mosquitoes have been found by Barnes in Siam. Of the 3,901 anopheline mosquitoes collected in his house, 1,954 were females and 1,947 were males. The great majority of these mosquitoes were *Anopheles rossii*. It would appear that the males follow the females in their flight instead of remaining near the breeding pools to which the females will return and from which newly matured females are emerging. Another observation is the efficiency of small webless spiders as destroyers of anopheline mosquitoes. Barnes observed also the capture of a mosquito by a dragon fly.

Analyzing Hookworm Culture Conditions.—Experimentation detailed by Stoll demonstrates a method of analyzing hookworm culture conditions by combining the use of an egg count method before (and during) the culturing and the larval isolation procedure afterward. Two experiments are described in detail in which very acid feces were cultured for hookworm larvae under a variety of conditions. The unmodified feces produced few or no larvae. This was accompanied by an intense acidity at all stages of the experiment, as measured in terms of either the hydrogen ion concentration or the titration values. In general the p_H reading was from 4.8 to 5.0, the feces titrating more than 1 c.c. of decinormal sodium hydroxid solution per gram. Charcoal and soil cultures from the same stirred stools reared up to 69 per cent. of larvae.

Relation Between Number of Eggs Found in Human Feces and Number of Hookworms in Host.—An intensive study of ten hookworm cases in Utuado, P. R., is reported on by Stoll in which the total number of hookworm eggs in the feces has been computed for from one to five days and compared to worm counts made after treatment. The consistency of the data presented is such as to recommend the use of a dilution egg counting method to determine intensity of infections of patients with hookworms.

American Review of Tuberculosis, Baltimore

7: 1-62 (March) 1923

*Biochemistry and Chemotherapy of Tuberculosis. XXIV. Alimentary Absorption of Calcium and Its Deposition in Tissues in Experimental Tuberculosis. M. E. Maver and H. G. Wells, Chicago.—p. 1.
*Nutrition in Experimental Tuberculosis. I. Effect of Fat Soluble A Vitamin on Tuberculosis of Guinea-Pig; Value of Cod Liver Oil in Experimental Tuberculosis. M. I. Smith, Washington, D. C.—p. 33.
*Experimental Tuberculosis in Rats on Varied Diets. Protein and Salt Factors. L. B. Lange and N. Simmonds, Baltimore.—p. 49.
*Case of Primary Lower Lobe Tuberculosis Manifested Immediately After Prophylactic Typhoid Inoculation. I. S. Kahn, San Antonio, Texas.—p. 60.
Case of Closed Tuberculous Pyopneumothorax Treated by Formaldehyd-Glycerin Injections with Recovery. I. S. Kahn, San Antonio, Texas. —p. 62.

Alimentary Absorption of Calcium.—A review of the literature on the therapeutic use of calcium in tuberculosis, and especially the experimental evidence on this subject, reveals the presence of a considerable body of clinical observation indicating a favorable effect of calcium therapy on the tuberculosis itself as well as on certain of its complications, a certain amount of evidence that such favorable results are not obtainable, and a complete lack of convincing experimental evidence in support of calcium therapy. The hypothesis of a decalcification or demineralization in tuberculosis, according to Maver and Wells, does not receive support from the most carefully conducted investigations. Also, the best chemical evidence is that there is no demonstrable deficiency of calcium in the blood or tissues in tuberculosis, and that feeding of calcium salts does not appreciably increase the amount of calcium in the blood when this is already normal. The authors' experiments have shown that guinea-pigs on an ordinary laboratory diet exhibit some variations in the calcium content of the same tissue in different animals, and of different tissues in the same animals, yet, averaged together in a series of animals, the results are not far from identical, being generally lowest in the liver and highest in the lymph nodes; but not far from the same content as the blood, that is, from 10 to 13 mg. of calcium for each 100 gm. moist weight. These studies have failed to produce experimental evidence to support the empirical clinical evidence that calcium administration has a favorable influence on the course of tuberculous infection. They do support the evidence of chemical studies that administration of calcium salts by mouth does not appreciably increase the amount of calcium in the blood and tissues, for this is nor-

mally maintained at a level not far below the saturation point of the body fluids.

Effect of Fat Soluble A Vitamin on Experimental Tuberculosis.—The results of Smith's experiments are negative in so far as concerns the action of cod liver oil on tuberculosis of the guinea-pig. This substance has not shown itself definitely beneficial, either as regards weight curve, length of life or extent of the disease process, in experimentally infected guinea-pigs kept on a normal or a deficient diet. There has been no evidence of deposition of calcium in tubercle of the guinea-pig when this element was administered with the cod liver oil. Cod liver oil appears to have, however, a definite, though slight, effect on the nutrition of the nontuberculous guinea-pig, especially when the latter is maintained on a diet deficient in the fat soluble A factor.

Experimental Tuberculosis in Rats on Varied Diets.—Four series of rats were infected by Lange and Simmonds with bovine tubercle bacilli by subcutaneous inoculation into the groin and the progress of the infection was studied at intervals of from one week to five months. Three series were on diets of varying protein content, adequate, high and low. No significant difference was noted in the reaction to infection in the three groups, either in the general condition and weight curves or in the necropsy findings. The fourth series was on a diet deficient in salts but otherwise adequate. These animals showed a more diffuse and extensive local reaction at the site of inoculation, a slower dissemination and a slower elimination of the lesions. In all four series there was a high resistance to tuberculous infection. As far as it went, the reaction was similar in character and progress to that found in less resistant animals, but the process never advanced in any of the sixty-six infected animals to extensive necrosis. Instead, the invading bacilli appear to be overcome directly rather than to be merely walled off. No instance of connective tissue encapsulation was observed. Instead, there was slow shrinkage and absorption of the tuberculous tissue accompanied by disappearance of the tubercle bacilli.

Case of Primary Lower Lobe Tuberculosis.—Immediately after a prophylactic typhoid inoculation, Kahn's patient developed fever and cough. Examination a week later showed moderate tuberculous infiltration extending from hilum to periphery of the lower lobe of the right lung, with one small old cavity in the upper portion of infiltration. The upper lobes were clear. The sputum was scanty and mucoid, but contained tubercle bacilli.

Annals of Surgery, Philadelphia

77: 257-364 (March) 1923

General Plastic Surgery. J. S. Davis, Baltimore.—p. 257.
Treatment of Anthrax Infections. A. McGlannan, Baltimore.—p. 263.
Treatment of Diverticulum of the Esophagus. C. H. Mayo, Rochester, Minn.—p. 267.
*Metastasizing Tendency of Esophagus Carcinoma. G. F. Helsley, Fresno, Calif.—p. 272.
*Papilloma and Adenoma of Gallbladder. I. Abell, Louisville.—p. 276.
*White Bile in Common Duct. E. S. Judd and J. H. Lyons, Rochester, Minn.—p. 281.
*Surgical Treatment of Chronic Ulcerative Colitis. H. B. Stone, Baltimore.—p. 293.
Mesenteric Thrombosis. Report of Case. J. F. Mitchell, Washington, D. C.—p. 299.
*Sarcoma or Embryoma of Kidney in Infants. C. R. Robins, Richmond, Va.—p. 306.
*Spontaneous Hematoma in Sarcoma of Kidney. F. K. Boland, Atlanta, Ga.—p. 311.
Ureteral Injuries During Pelvic Operations. J. M. Maury, Memphis. —p. 314.
*Typhoidal Osteomyelitis. N. Winslow, Baltimore.—p. 319.
Radical Operation for Chronic Empyema. C. Eggers, New York.—p. 327.
Case of Teratoid Mixed Tumor of Breast. M. A. McIver, Boston.—p. 354.
*Rupture of Long Head of Biceps Flexor Cubiti Muscle. N. A. Ludington, New Haven, Conn.—p. 358.
Value and Limitations of Blood Transfusion. E. W. Peterson, New York.—p. 364.

Metastases of Esophagus Carcinoma.—In seventy fatal cases of carcinoma of the esophagus analyzed by Helsley, metastases were present in 36 per cent. In 6 per cent. the secondary growths were limited to the regional lymph nodes. This indicates a limited tendency to metastasize. The average duration of symptoms, 4.8 months, in the patients who died without metastases indicates that in the majority of cases ample time is given for diagnosis and treatment before metastasis occurs. However, the striking change for the worse in the pathologic picture during the average of sixty-nine days by which the patients that survived gastrostomy outlived the patients that succumbed thereto, gives warning of the speed with which metastases develop in a somewhat advanced stage of the disease. Irrespective of the duration of the disease, the possibility of metastasis formation, without definite evidence of same, should not be considered as a contraindication to radical operation.

Papilloma and Adenoma of Gallbladder.—Benign tumors of the gallbladder, notably papilloma and adenoma, Abell says, are not so rare as formerly thought, occurring in the Mayo series once in every twenty-three cases of cholecystectomy and once in every thirty-six cases of the series reported on by Abell. The invariable presence of chronic inflammatory changes in gallbladders containing such tumors would argue the importance of chronic irritation as an etiologic factor in their development. The overshadowing clinical picture is that of cholecystitis, there being no correlation of symptoms with the presence of such tumors. The fact that such tumors occur in the course of chronic cholecystitis, in Abell's opinion, is an additional argument in favor of cholecystectomy.

White Bile in Common Duct.—Cases in which there is white or colorless fluid in the common duct, Judd and Lyons assert, represent a very serious surgical type. They are not, however, necessarily fatal as the finding of this fluid in the duct does not mean that the liver is interfered with more than in any deeply jaundiced patient. The colorless fluid, or so-called white bile, is a product of the glands of the duct wall. It is secreted under sufficient pressure to continue to form, regardless of the secretion of bile from the liver, and it collects in the ducts only when the activities of the gallbladder are destroyed. Nineteen cases are reported.

Surgical Treatment of Chronic Ulcerative Colitis.—When chronic ulcerative colitis resists medical treatment or becomes severe, Stone asserts that operative intervention is indicated, and ileostomy and separate appendicostomy for colon irrigations, with exclusion of the colon from function, offers best results.

Sarcoma or Embryoma of Kidney in Infants.—The case reported by Robins is of interest because the specimen is a very typical example of this type of tumor and because the patient is still alive and in robust health two years after the operation. He is now 3 years old.

Spontaneous Hematoma in Sarcoma of Kidney.—Boland's patient, a female, aged 51, was seized with a sudden violent pain in the left loin, accompanied by extreme weakness, faintness and nausea. Within two hours she was in a state of collapse, with a very weak pulse, a distended abdomen, and an easily discernible mass in the left loin, the size of one's head and extended toward the pelvis. It was tender, hard and immovable. Gentle inflation of the descending colon with air showed that the mass was retroperitoneal. No roentgen-ray equipment was available, and the weakness of the patient and difficulty of moving her seemed to contraindicate the use of the cystoscope. An exploratory operation was performed. The mass proved to be the kidney, its lower pole enveloped by an hematoma 22 cm. in diameter, apparently held within the perirenal fat. A new growth, 7 cm. in diameter, probably malignant, occupied the lower third of the organ. A nephrectomy was done. Examination of the excised organ showed that it had "blown out" at its lower pole through the new growth, producing hemorrhage and the enormous hematoma. What excited the rupture at this particular time could not be determined. The pathologic diagnosis was spindle cell sarcoma. Boland failed to find a similar case on record.

Typhoidal Osteomyelitis.—Winslow calls attention to osteomyelitis as a relic of typhoid fever; tabulates the cases in which *B. typhosus* has been found and records two additional cases.

Rupture of Long Head of Biceps Flexor Cubiti Muscle.—A new diagnostic test is described by Ludington. The patient

is directed to rest his folded hands, palms down, on the top of his head and allow the interlocked fingers to support the weight of the arms. In this position there is maximum relaxation of the long head of the biceps. The examiner then places two fingers on the tendon of the long head of the biceps in each arm, and directs the patient to contract and relax his biceps muscles simultaneously. The contraction of the long head tendon on the sound side is plainly felt while it is absent on the affected side if the tendon is ruptured.

Archives of Dermatology and Syphilology, Chicago

7: 429-572 (April) 1923

*Study of Erosive and Gangrenous Balanitis. Special Reference to Rôle of Fusiform Bacilli and Spirochetes. J. Brams and I. Pilot, Chicago.—p. 429.
Herpes Zoster Generalisatus. Report of Case. Review of Literature. M. B. Parounagian and H. Goodman, New York.—p. 439.
Lichen Nitidus. Report of Two Cases. W. B. Trimble and E. R. Maloney, New York.—p. 452.
Acute Papular and Desquamative Exanthem in an Orang-Utan. H. Fox and F. D. Weidman, Philadelphia.—p. 462.
*Syphilitic Macular Atrophy. V. Pardo-Castello, Havana, Cuba.—p. 465.
Epithelioma of Auricle. D. W. Montgomery and G. D. Culver, San Fancisco.—p. 472.
Nevus Pilaris with Hyperplasia of Nonstriated Muscle. J. H. Stokes, Rochester, Minn.—p. 479.
*Inability of Serum with High Cholesterol Content to Increase Strength of Wassermann Reaction. W. Thalhimer and B. Hogan, Milwaukee. —p. 482.
Jaundice in Syphilitic Persons Receiving Arsenical Medication. Its Early Detection and Possible Prevention. L. Chargin and S. Z. Orgel, New York.—p. 495.
Common Errors in Dermatologic Terminology. H. Fox, New York.—p. 499.
*Treatment of Pruritus Ani with Bacterial Injections. F. C. Knowles and E. F. Corson, Philadelphia.—p. 505.
*Geranium Dermatitis. Report of Case. J. W. Anderson, Norfolk, Va. —p. 510.

Erosive and Gangrenous Balanitis.—Four cases of gangrenous and erosive balanitis are reported by Brams and Pilot because the comparative bacteriologic study of the secretions in these diseases and the normal preputial secretion suggested the etiology of the infection. The cases did not present a history of any unnatural sexual acts or saliva contact of any kind. Bacteriologic study showed that normal preputial secretions often harbor fusiform bacilli, spirochetes and pyogens. Under suitable conditions, often associated with diminished lowered general resistance, balanitis may result from the organisms normally present as saprophytes. To prevent balanitis, proper hygiene of the sac should be carried out, particularly in patients with a long foreskin. Early recognition and proper treatment of the disease is imperative, as the process spreads with great rapidity.

Syphilitic Macular Atrophy.—A case of cutaneous macular atrophy of syphilitic origin in a colored man, 29 years of age, is reported by Castello. No other signs of syphilis could be found. The Wassermann reaction was strongly positive. Pathologically, there was degeneration and atrophy of the elastic tissue, hyperplasia of the connective tissue, arteritis, moderate perivascular infiltration and atrophy of the epidermis. This case resembles closely the condition described by Schweninger and Buzzi under the name of multiple benign tumor-like new growths. The condition first reported by these authors seems to be a form of macular atrophy of the skin due to different etiologic causes, one of which might be syphilis. The diagnosis of syphilis in this case is based on the history of the patient, the pathologic findings, the strongly positive Wassermann test, and on the fact that after four months of intensive specific treatment no new lesions have appeared.

Inability of High Cholesterol Serum to Increase Strength of Wassermann Reaction.—The investigation made by Thalhimer and Hogan is said to have demonstrated that when relatively large amounts of a high cholesterol serum are added to the Kolmer quantitative test, no increase in the strength of the reaction occurs. The authors believe that this indicates that hypercholesterolemia does not increase the strength of the Wassermann reaction whether plain or cholesterolized antigens are used. The experiments also demonstrate that hypercholesterolemia does not cause a falsely positive (nonspecific) Wassermann reaction.

Bacterial Injections in Treatment of Pruritus Ani.—Knowles and Corson report having obtained good results in cases of pruritus ani from the injection of killed *Streptococcus fecalis*. The doses used were large, running from 175,000,000 to 1,000,000,000 killed organisms. Adherence to small doses (less than 100,000,000) seemed to produce little effect. Those benefited only improved when the number of bacteria was increased to several hundred millions. Injections were given at weekly intervals. The length of time the condition had existed varied from four months to ten years.

Vesicular Geranium Dermatitis.—A case of vesicular dermatitis cause by contact with the leaves of a geranium is reported by Anderson. It is said to be the first case of the kind on record. This condition was proved by a cutaneous test, arsenic and other parasiticides having been eliminated.

Boston Medical and Surgical Journal

188: 523-566 (April 12) 1923

Smallpox and Vaccination. B. White, Boston.—p. 523.
Granuloma Inguinale in Boston. G. C. Shattuck, Boston.—p. 530.
Fish-Egg Mucocele of Appendix; Cystic Type of Chronic Catarrhal Appendicitis. Report of Case. W. R. Morrison, Boston.—p. 532.
Excising the Appendix Vermiformis. W. Van Hook, Chicago.—p. 537.
Full-Time School Physician. H. G. Rowell, New Bedford, Mass.—p. 540.
Are Amputation Stumps Receiving Adequate After-Care? C. Bearse, Boston.—p. 542.
High and Low Enemata. A Mistaken Conception. S. W. Ellsworth and F. E. Wheatley, Boston —p. 545.

Canadian Medical Association Journal, Montreal

13: 152-189 (March) 1923

Recent Cancer Therapy. F. C. Wood, New York.—p. 152.
Control of Cancer. A. Primrose, Toronto.—p. 160.
Clinical Diagnosis of Smallpox and Chickenpox. H. W. Hill, Ontario. —p. 162.
Scoliosis or Lateral Curvature of Spine. A. M. Forbes, Montreal.—p. 168.
*Congenital Syphilis. E. A. Morgan, Toronto.—p. 171.
Management of Discharging Ears in Children. E. Boyd, Toronto.—p. 175.
Phosphate Content of Serum of Cases of Bone Tuberculosis Treated by Heliotherapy. F. T. Tisdall and R. I. Harris, Toronto.—p. 177.
Supplemental Feeding in Gastro-Intestinal Disturbances of Breast Fed Infant. R. R. MacGregor, Kingston.—p. 179.
Testing of Clinical Thermometers. W. C. Way, Ottawa.—p. 180.
Limp of Childhood. J. A. Nutter, Montreal.—p. 182.
Four Cases of Bronchoscopy (Including Two of Lung Abscess). R. H. Craig, Montreal.—p. 185.
Hypertonic Solutions. W. Bourne, Montreal.—p. 188.
Epilepsy. A. G. Morphy, Montreal.—p. 189.

Treatment of Congenital Syphilis.—The routine treatment adopted by Morgan in 186 cases was as follows: One of the arsenical compounds is injected intravenously once a week for six weeks, followed by a course of mercury for six weeks. Blood for a Wassermann test is then taken and if still positive the courses are again repeated. This routine is continued until a negative test is obtained or the hope of securing a negative test is regarded as small. The veins used for injection are those of the scalp, of the antecubital space, or the external jugular. The longitudinal sinus is never used since it is believed that such a procedure is not unattended with danger. Mercury is given by inunction to the infants, and by inunction and by mouth to the older children. Intramuscular injections are employed in those cases in which there is a well founded suspicion that the home treatment by inunction is being neglected by the parents. In a few instances arsenic and mercury have been administered at the same time. Cases of neurosyphilis were treated in the manner suggested by Swift and Ellis. Of 100 patients, three died, and only 21 per cent. failed to improve.

Colorado Medicine, Denver

20: 61-86 (March) 1923

Hypertrophic Stenosis of Pylorus. Report of Twenty-Four Cases. J. W. Amesse, Denver.—p. 68.
Surgical Treatment of Congenital Hypertrophic Pyloric Stenosis. G. B. Packard, Jr., Denver.—p. 73.

Georgia Medical Association Journal, Atlanta

12: 89-132 (March) 1923

Percussion of Healthy Chest. B. C. Teasley, Hartwell, Ga.—p. 89.
Treatment of Ruptured Appendix. E. H. Greene, Atlanta.—p. 92.
Pemphigus Conjunctivae; Report of Case. C. Stockard, Atlanta.—p. 95.

Interesting Experiences in Cataract Extraction Among Confederate Veterans. M. Equen, Atlanta.—p. 97.
Vernal Conjunctivitis. (Spring Catarrh. Conjunctivitis Aestivalis). New Observations on Treatment. A. G. Fort, Atlanta.—p. 101.
Syphilis Among Insane. G. L. Echols, Milledgeville, Ga.—p. 103.
Accidental Hemorrhage. Report of Five Cases. A. C. Wade, Augusta, Ga.—p. 105.
Case of Sudden Death in Labor Due to Intracranial Hemorrhage. R. A. Bartholomew, Atlanta.—p. 109.
Rational Surgery in Gallbladder Disease. L. W. Grove, Atlanta.—p. 111.

Journal of Immunology, Baltimore

8: 75-151 (March) 1923

*Physiologic Adaptations of Fixed Tissues in Anaphylaxis and Immunity. I. Reactions of Isolated Rabbit Heart to Cobra Venom. W. H. Manwaring and T. B. Williams, San Francisco.—p. 75.
Study of Microbic Tissue Affinity by Perfusion Methods. W. H. Manwaring and W. Fritschen, San Francisco.—p. 83.
Prophylactic Action of Atropin Sulphate on Anaphylactic and Allergic Reactions of Excised Uterus of Virgin Guinea-Pigs. O. O. Stoland and N. P. Sherwood, Rosedale, Kan.—p. 91.
*Complement Fixation Test in Chronic Gonorrhea in Women. M. A. Wilson, M. V. Forbes and F. Schwartz, New York.—p. 105.
Hepatic Reactions in Anaphylaxis. II. Hepatic Mechanical Factor in Peptone Shock. W. H. Manwaring, S. Brill and W. H. Boyd, San Francisco.—p. 121.
Hepatic Reactions in Anaphylaxis. III. Extrahepatic Mechanical Reactions in Peptone Shock. W. H. Manwaring and W. H. Boyd, San Francisco.—p. 131.
Bacterial Anaphylaxis. N. P. Sherwood and O. O. Stoland, Lawrence, Kan.—p. 141.
Substance in Immune Horse Serum Which Interferes with Alexin Fixation. H. Zinsser and J. T. Parker, New York.—p. 151.

Physiologic Adaptations of Fixed Tissues in Anaphylaxis.—The observations made by Manwaring and Williams are to the effect that the cardiac tissues apparently play a purely passive rôle in immunologic adaptation to cobra venom.

Complement Fixation Test in Chronic Gonorrhea in Women.—Investigation made by Wilson, Forbes and Schwartz of various culture mediums for the preparation of gonococcus antigen showed that any of the starch-free and hemoglobin-free mediums that would give a profuse growth of the gonococcus within forty-eight hours at 37 C., would give antigens of equal value. Recently isolated gonococci were of lower antigenicity than the Torrey strains isolated many years ago.

Journal of Nervous and Mental Diseases, New York

57: 329-364 (April) 1923

The Mneme, the Engram and the Unconscious. Richard Semon. His Life and Work. S. E. Jelliffe, New York.—p. 329.
Tumors of the Upper Cervical Cord. Report of Cases. I. Abrahamson and M. Grossman, New York.—p. 342.
*Lumbosacral Pain and Sacralization of the Fifth Lumbar Vertebra, Complicated by Involvement of the Spinal Cord. A. Gordon, Philadelphia.—p. 364.

Lumbosacral Pain and Sacralization.—Gordon reports a case in which the symptoms pointed to a compression of the roots and nerves passing through the intervertebral foramina, which by reason of the excessive enlargement of the transverse process of the fifth lumbar vertebra became narrowed. There was also the involvement of certain tracts within the spinal cord evidently secondary in its development. The case is an example of sacralization of the transverse process of the vertebra and more on one side than on the other. The pain appeared when the patient was 26, demonstrating a late ossification of complementary points in the transverse process of the vertebrae.

Journal of Radiology, Omaha

4: 75-104 (March) 1923

Progression of Chest and Determination of Normal. W. W. Wasson, Denver.—p. 75.
Surgical Diathermy in Relation to Radiotherapy. G. Kolischer and H. Katz, Chicago.—p. 76.
Physical Principles of Alpha Ray Therapy. V. F. Hess, New York.—p. 78.
Ultraviolet Radiation. A. J. Pacini, Chicago.—p. 80.
Roentgenologic Aspects of Visceral Crises. A. W. Crane, Kalamazoo, Mich.—p. 85.

Journal of Urology, Baltimore

March, 1923, 9, No. 3

*Diathermy in Treatment of Tumors of Lower Urinary Tract. C. Corbus, Chicago.—p. 203.
*Treatment of Cancer of Bladder by Radium Implantation. G. G. Smith, Boston.—p. 217.
*New Method of Applying Radium Through the Cystoscope. L. Buerger, New Rork.—p. 227.
Electrotherapeutics in Prostatic Conditions. V. C. Pedersen, New York.—p. 249.
Case of Stone in Bladder Which Formed Around Suture of Pagenstecher Linen. H. L. Kretschmer, Chicago.—p. 281.
Partial Spontaneous Inversion of Diverticulum of Bladder with Dumb-Bell Stone. C. R. B. Crompton, Rochester, Minn.—p. 283.

Diathermy in Treatment of Tumors of Lower Urinary Tract.—Corbus asserts that diathermy can be used to destroy cancer in areas that are totally inaccessible by any other procedure. In order to accomplish successfully the destruction of malignant tumors with thermic electrocoagulation, however, a current must be used that is low in voltage and high in amperes, only enough voltage being used to drive the current through the tissues. This, of course, varies in different parts of the body. In coagulating tumors of the bladder by the low infusion of heat 1,500 milliamperes are, as a rule, sufficient.

Radium Therapy for Cancer of Bladder.—Smith's experience has been that the implantation in bladder cancer of bare tubes of radium emanation of low potency, or of radium bearing needles of 5 mg. each, will cause complete necrosis of the tumor, provided the radium carriers are inserted 1 cm. apart and are so placed that the entire periphery of the growth is brought within reach of rays of lethal power. Two classes of cases are said to be suitable for this treatment: (1) small, single papillary carcinomata, into the base of which bare emanation tubes may be deposited by intravesical methods; (2) sessile carcinomata, or the bases of large fungating growths after destruction of the tumor by cautery, into which radium may be implanted through a suprapubic cystotomy. It is inadvisable to bring about the necrosis of a tumor more than 3 or 4 cm. in diameter, as the absorption of toxins from the infected slough is likely to prove fatal. The problem in treating cancer of the bladder by this method is to use enough radium to destroy the cancer, but not enough to destroy the patient. In a number of cases of cancer of the bladder in which the growth could not have been excised successfully, there has been complete disappearance of the growth, clinically, following the implantation of radium.

New Method of Applying Radium in Bladder Cancer.—Buerger has perfected a method of applying radium in bladder cancer that will eliminate the necessity of leaving the cystoscope in the bladder, and thus permit the prolongation of radium contact over a period of many hours without excessive discomfort to the patient. The armamentarium which has been successfully employed includes: special radium needles; special applicators for the insertion of the needles into the growth and either the author's operating cystoscope, a direct or oblique vision cystoscope, or the author's oblique vision radium cystoscope.

Kentucky Medical Journal, Bowling Green

21: 113-170 (March) 1923

Preventive Medicine and General Practitioner. J. M. Dodson, Chicago.—p. 115.
Abscess of Lung Occurring After Tonsillectomy. J. R. Peabody, Louisville.—p. 121.
Hill Billy Abdominal Surgery. J. G. Carpenter, Stanford.—p. 128.
Pyonephrosis with Multiple Calculi in Child of Twelve Years. G. P. Grigsby, Louisville.—p. 139.
Therapeutic Problems of Acute Middle Ear Infection. M. F. McCarthy, Cincinnati.—p. 140.
Cooperative Full Time County Health Department. P. W. Covington, Louisville.—p. 144.
Infection and Inflammation of Investing Tissues of Teeth and Their Relation to Maxillary Sinus. G. B. Brown, Lexington.—p. 149.
What the Family Physician Should Know About Syphilis. C. J. Broeman, Cincinnati.—p. 152.
Summer Diarrhea. J. W. Bruce, Louisville.—p. 158.
Brain Tumor. Case Report. L. W. Frank, Louisville.—p. 160.

New Orleans Medical and Surgical Journal

75: 483-531 (March) 1923

Sketch of Life of Pasteur. O. L. Pothier, New Orleans.—p. 483.
Influence of Pasteur on Surgery. H. B. Gessner, New Orleans.—p. 494.
Influence of Pasteur on Bacteriology and Pathology. J. A. Lanford, New Orleans.—p. 499.
Pasteur — His Work and What It Has Done for Medicine. J. D. Weis, New Orleans.—p. 505.
Pasteur's Influence on Hygiene. W. H. Seeman, New Orleans.—p. 515.
Pasteur's Contributions to Chemistry. H. W. Mosely, New Orleans.—p. 519.

Influence of Pasteur on Obstetrics and Gynecology. E. L. King, New Orleans.—p. 527.
Safe and Practical Method of Administering Scopolamin-Morphin Anesthesia in Obstetrics. B. Van Hoosen, Chicago.—p. 531.

75: 585-694 (April) 1923

Nervous System in Syphilis. C. Pierson, Alexandria, La., and E. M. Levy, Jackson, La.—p. 585.
*Diarrhea and Disturbances of Digestive Functions. D. N. Silverman, New Orleans.—p. 592.
*Lethargic Encephalitis (Epidemic). Report of Four Cases with Residual Symptoms. W. S. Kerlin, Shreveport, La.—p. 600.
*Correlation of Blood, Spinal Fluid and Clinical Findings in Unselected Cases Presenting Probable Syphilitic Condition. F. M. Johns, New Orleans.—p. 606.
Treatment of Tetanus by Serum. D. W. Kelly, Winnfield, La.—p. 615.
Blood Pressure. H. G. Richie, New Orleans.—p. 618.
Treatment of Typhoid Fever. G. S. Bel, New Orleans.—p. 629.
The Unusual Child. W. J. Otis, New Orleans.—p. 641.
Leukocytic Count and Its Relationship to Various Diseases. W. H. Harris, New Orleans.—p. 649.
Puzzling Case of Fever (Yellow Fever?). A. E. Fossier, New Orleans. —p. 658.

Diarrhea and Disturbances of Digestive Functions.—Silverman relates a case of chronic diarrhea following a cholecystectomy in which microscopic studies of the duodenal contents showed thousands of vegetative Giardia present. The administration of five doses of silver arsphenamin intraduodenally, aggregating a dosage of 7 dg. in four weeks, caused the disappearance of the Giardia in both the duodenal contents and stools. But, the diarrhea persisted. The giving of pancreatin resulted in two stools daily and the disappearance of undigested food from the feces.

Residual Symptoms in Lethargic Encephalitis.—Four cases of lethargic encephalitis are reported by Kerlin which presented late manifestations and recrudescence of symptoms. In one case the patient complained of inability to control her movements, restlessness and jerking of hands. Another suffered from constant yawning and drowsiness; a third exhibited nervousness and a tremor involving principally the muscles of the right leg. The fourth patient also complained of nervousness as well as weakness of the back muscles.

Correlation of Blood Spinal Fluid and Clinical Findings in Syphilis.—Of 100 cases analyzed by Johns in which syphilis was possibly present, forty-two were diagnosed as such. In 85 per cent. of the positive diagnoses, confirmatory laboratory findings were present in the blood or spinal fluid. In forty cases there was clinical evidence of organic central nervous system involvement, with thirty-nine showing clinical evidence of meningeal involvement and thirty-four of these gave evidence of organic degenerative changes in the spinal fluid. All of the cases in this limited series that presented either an increased globulin content, + colloidal gold reaction or increased cell count presented some degree of symptoms referable to a meningeal involvement. Two cases of tertiary syphilis with no evidence of central nervous involvement gave neither increase in the globulins and cells nor reaction with colloidal gold.

New York Medical Journal and Medical Record

March 21, 1923, **117**, No. 6

Vitamin C as Vegetable and Animal Tyrosin and Tyrosinase, Jointly the Homologues of Epinephrin Tests and Food Values. C. E. de M. Sajous, Philadelphia.—p. 325.
Diagnostic Criterion and Serum Therapy in Lethargic Encephalitis. M. Neustaedter, New York.—p. 333.
Educational Methods of Various Schools of Medicine and Treatment of Disease. J. M. Anders, Philadelphia.—p. 335.
*Medical School Curriculum Leading to Rational Therapy Recommended by American Therapeutic Society. O. T. Osborne, New Haven, Conn. —p. 340.
Social Service Ward for Women and Children. Solution of Family Problems of Venereal Disease. V. C. Pedersen, New York.—p. 345.
Synergistic Analgesia in Rectal Operations. J. F. Saphir, New York. —p. 351.
Advances in Roentgen-Ray Therapy with Special Reference to High Voltage Homogeneous Rays. W. H. Dieffenbach, New York.—p. 354.
*Case of Cyst of Epiglottis Presenting Some Unusual Features. H. M. Taylor, Jacksonville, Fla.—p. 357.
Clinical Manifestations of Anaphylactic Reaction. J. F. Anderson, New Brunswick, N. J.—p. 358.
Dawn of Surgery: Its Armamentarium. J. Wright, Pleasantville, N. Y.—p. 361.
Health Conditions in New York City Prisons. J. A. Hamilton, Albany, N. Y.—p. 364.

Medical School Curriculum Recommended by American Therapeutic Society.—The plan outlined by Osborne is as follows: Biochemistry and physiology should be taught principally in the first year, but the chemistry of the tissues and secretions, and nutritional and metabolic processes should be presented repeatedly to the medical student throughout his course in pharmacology and therapeutics, so that he will constantly bear in mind the functions and the chemical reactions of the diseased parts he is called on to treat. Pharmacology should be taught principally in the second year by assigned lessons in a textbook and by personal participation, under supervision of the instructor, in the demonstration of the action of therapeutically useful drugs. The close relationship between physiology and pharmacology should constantly be impressed on the student. Didactic instruction should be given and, when possible, quizzes based on textbook lessons should be held on all useful drugs the action of which cannot be demonstrated pharmacologically, such as quinin, mercury, iodids, iron, and others. Also, such instruction should be given concerning the value of drugs used externally, as antiseptics, germicides, and those used as stimulants or sedatives to the skin and mucous membranes. The principles of therapeutics should be taught in the first half of the third year, and must be preceded by the study of the pathology of disease, as unless the physiology and pathology of a part, or a diseased condition, are understood, a rational application of therapeutic measures cannot be made. Applied therapeutics should be preceded by instruction in physical diagnosis, clinical laboratory instruction, and didactic and textbook instruction of internal medicine. Clinical instruction in therapy, that is, applied therapeutics, should be begun at the bedside, in the latter half of the third year and should continue throughout the fourth year. Didactic instruction in applied therapeutics should, during the third year, supplement the bedside instruction. The part that foods play in diseases of metabolism and the proper diet for each individual patient should be presented to the student so that he will recognize the importance of dietotherapy. Preferably hospital therapeutic instruction should precede dispensary therapeutic instruction, as more scientific diagnoses can be made and the results of treatment can be watched in the former cases. Throughout the whole course of the student's hospital and dispensary clinical instruction, the effect, success or failure of any drug or physical treatment given should be brought emphatically to his attention.

Cyst of Epiglottis Presenting Unusual Features.—In Taylor's case, the forty-third on record, a cystadenoma of the epiglottis was removed. There followed an entropion of the epiglottis which gave rise to the same symptoms as did the tumor. Seven weeks after the removal of the cyst, during which time the patient was having nocturnal attacks of choking, that portion of the epiglottis showing a definite entropion was removed by the use of the alligator punch forceps. The result was relief from all distressing symptoms.

Northwest Medicine, Seattle

22: 77-114 (March) 1923

Treatment of Carcinoma of Uterus. Special Reference to Surgery, Roentgen Rays and Radium. H. Schmitz, Chicago.—p. 77.
Deep Roentgen Ray Therapy. C. B. Ward, Spokane, Wash.—p. 81.
High Voltage Roentgen Ray Therapy in Treatment of Carcinoma of Breast. J. Aspray, Spokane, Wash.—p. 85.
Method of Intensive, Systematic and Prolonged Treatment of Syphilis and Importance of Its Application in Primary and Early Secondary Stages. H. M. Greene, Portland, Ore.—p. 87.
Pulmonary Sequelae of Oral and Nasal Operations. C. C. Browning, Los Angeles.—p. 92.
Pyelitis. Some Clinical Relationships. E. W. Janes, Tacoma, Wash.—p. 96.
Eugenics and Heredity. J. W. Snoke, Tacoma, Wash.—p. 100.

Oklahoma State Medical Association Journal, Muskogee

16: 53-84 (March) 1923

Cholecystitis. O. W. Rice, Alderson, Okla.—p. 53.
Pernicious Anemia. H. T. Ballantine, Muskogee.—p. 57.
Treatment of Eye Injuries. Use of Conjunctival Flap in Perforations. O. I. Green, Bartlesville, Okla.—p. 61.
Congenital Anophthalmos. Report of Case. U. C. Boon, Chickasha.—p. 63.
Urethritis. J. H. Hays, Enid, Okla.—p. 64.

Southwestern Medicine, Phoenix, Ariz.

1: 65-89 (March) 1923

Diagnosis and Treatment (Heliotherapy) of Intestinal Tuberculosis. R. O. Brown, Santa Fe, N. M.—p. 65.
Hysterectomy for Pernicious Vomiting in Pregnancy with Fibroid. J. R. Gilbert, Alamogordo, N. M.—p. 71.
Intensive Treatment of Early Syphilis. W. G. Schultz, Tucson, Ariz. —p. 73.
Over Three Years' Surgical Work at Clifton (Arizona) Hospital without Surgical Mortality. T. B. Smith, Morenci, Ariz.—p. 77.
Cerebrospinal Fluid. C. Jay, Morenci, Ariz.—p. 81.
Appendicitis. H. A. Phillips, Fort Bliss, Tex.—p. 86.
Disorders of Locomotion and Their Significance. C. L. Lowman, Los Angeles, Calif.—p. 89.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

7: 161-204 (April) 1923

So-Called Glass Workers' Cataract Occurring in Other Occupations. Report of Two Cases. A. W. Sichel.—p. 161.
Macular Perception in Advanced Cataract. G. Young.—p. 167.
Monocular Optic Neuritis. L. Buchanan.—p. 170.
Siderosis. J. L. Gibson.—p. 174.
Ophthalmomyiasis. A. Ticho.—p. 177.

British Medical Journal, London

1: 579-616 (April 7) 1923

*Congenital Hypertrophy of Pylorus. G. F. Still.—p. 579.
*Ten Cases of Ovariotomy in Women Over 70 Years of Age. H. R. Spencer.—p. 582.
Man's Posture: Its Evolution and Disorders. A. Keith.—p. 587.
*Nature of Sugar in Blood. J. A. Hewitt.—p. 590.
*Septicemic Infection Following Operations for Appendicitis. A Prophylactic Serum. H. H. Brown.—p. 591.

Congenital Hypertrophy of Pylorus.—Of 225 cases observed by Still, 156 children recovered and 69 died. So far from operation being essential in all cases, Still says, there are some cases in which without special treatment of any kind, beyond painstaking and efficient regulation of the feeding, generally in the direction of reducing the food to small quantities at short intervals, the tumor and peristalsis have gradually disappeared, and after many weeks or months of hovering on the verge of collapse the infant has completely recovered. Among the 156 recoveries, six infants were treated this way, and one infant, after lavage had been perseveringly tried without success, eventually recovered with prolonged care in feeding. Of seventy-eight babies treated only by lavage, forty-three recovered and thirty-five died. With all its drawbacks, however, lavage has had sufficient successes, in Still's experience, to justify its retention as a method of treatment which may be the best one to adopt in particular cases. When the mother is breast-feeding her infant, Still believes it is usually the wisest course to proceed at once to operation, so that only with an interruption of forty-eight hours, to allow for recovery from the immediate disturbance of operation, the infant may continue the breast milk. Forcible dilation was done in 108 cases, with good results in eighty-six. Death occurred in twenty-two cases. The Rammstedt operation was successful in eighteen out of twenty-nine cases. Still favors dilation.

Ovariotomy in Women Over Seventy.—The ten cases reported on by Spencer occurred among 625 cases of ovarian tumor, the frequency being 1.6 per cent. Operation was done in each case, and all of the patients recovered.

Nature of Sugar in Blood.—Until evidence is brought that gamma glucose does exist as the sugar of blood and does not exist in diabetic blood, Hewitt says, no theory of diabetes can be formulated as to the relation of these sugars to this pathologic condition. Formation of gamma glucose in carbohydrate metabolism may take place as and when required, and the active modification may possibly have no more than a transitory existence.

Prophylactic Serum in Certain Cases of Appendicitis.—It occurred to Brown that it might be possible, by injecting a prophylactic serum before and at the time of operation and shortly afterward, to produce an immunity for the time which would prevent or largely minimize the danger of blood infection at the operation, if performed during the dangerous period of an abscessed appendix. It was decided to prepare such a serum by immunizating horses with cultures of *Streptococcus faecalis* and *Bacillus coli* provided from cases. Brown has not had an opportunity to test the value of this serum. He asks others to help him.

Indian Medical Gazette, Calcutta

58: 97-144 (March) 1923

Bacteriologic Notes on Epidemic of Seven-Day Fever. C. J. Stocker. —p. 97.
Field for Research in Indian Indigenous Drugs. R. N. Chopra and B. N. Ghosh.—p. 99.
Further Practical Experience with Aldehyde Test. L. E. Napier.—p. 104.
Berger's Stereoscopic Lenses for Ophthalmic Practice. E. A. R. Newman.—p. 108.
[illegible]gical Treatment of Chronic Dyspepsia. E. W. C. Bradfield.—p. 109.
New Method of Treatment for Inoperable Cancer (Auto-Inoculation). S. Mallannah.—p. 113.
Case of Quintuplets. R. E. Veerana.—p. 115.
Case of Lethargica Encephalitis with Parkinsonian Syndrome. J. C. De. —p. 117.
Edema of Leg Following Plague. G. S. Chawla.—p. 120.
Aseptic Thermometer Case. Lachmandas.—p. 120.

Lancet, London

1: 681-730 (April 7) 1923

*Diagnosis of Ulcers of Stomach and Duodenum. Value of Gastrojejunostomy in Their Treatment. A. Young.—p. 681.
After Effects of War Nephritis.—G. L. Thornton.—p. 690.
*Reflex Dulness in Old Chest Wounds. A. Neville.—p. 693.
*Intravenous Injection of Serum. P. Iversen.—p. 694.
Toxemic Aspect of Ocular Disease. P. Dunn.—p. 696.
*Treatment of Gluteal Aneurysm. A. W. Adams.—p. 697.
Research in Calcutta School of Tropical Medicine. R. Knowles.—p. 728.

Diagnosis of Ulcers of Stomach and Duodenum.—Of the 110 cases analyzed by Young, only sixteen were not diagnosed correctly and the error was not uniformly serious or material. Of nine cases diagnosed as simple gastric ulcer, only one case was wrongly diagnosed, and even that one was recognized as duodenal (after perforation), prior to operation. Of thirty-eight cases diagnosed as pyloroduodenal ulceration, only two were proved erroneously diagnosed, one being a case of general visceroptosis, including gastroptosis, the other being a case of cholecystitis and chronic appendicitis. Of twenty-one cases diagnosed as duodenal ulcer, four proved to be of another nature, but the error here could not be said to be of a serious order, the condition in all four cases being merely more extensive in location, and involving the pyloric region as well as the beginning of the duodenum, i. e., a case of pyloroduodenal ulceration, instead of purely duodenal. Of twenty-six cases diagnosed as certainly or probably cancer of the stomach, in only five did the diagnosis prove to be unjustified. In four of these five cases operation disclosed pyloroduodenal ulceration (in one case complicated by other lesions); in the remaining case (no operation performed), the aftercourse suggested that it was of the same order as the others. One case of supposed congenital stenosis of the pylorus was found to be of a simple spasmodic nature. In one case of cholecystitis, with gallstones, in which duodenal ulceration was also suspected, there was no direct evidence of the latter at operation, though some adhesions were found between duodenum and gallbladder; while in another case of the same nature pyloroduodenal ulceration was found where it had not been previously expected.

Significance of Band Dulness in Chest Wounds.—In non-tuberculous cases, Cox says, the presence or absence of the band dulness sign is closely related to the presence or absence of a retained foreign body in the chest. In wound cases, therefore, this sign cannot be taken as being diagnostic of active tubercle. Accepting Riviere's view that the sign indicates an irritation or inflammation of the lung parenchyma, it appears that a bullet or shell fragment is not always retained by the lung with such complete indifference as has been thought. It appears also, since band dulness was found in some instances so long as seven years after the wound was sustained, that the symptoms due to a retained foreign body may last a long time, and are by no means entirely subjective. In two cases there was clear evidence that the foreign body was changing its position in the lung. One of these patients had severe hemoptyses about the times of shift in position. Apparently, wounds of the lung are only rarely followed by tuberculosis; two instances out of sixty-

five cases were found in this series. The physical sign of "reflex band dulness" is frequently found in old lung wound cases, when there is a retained foreign body. Both this sign and the symptoms experienced by these patients suggest that a piece of metal retained in the lung keeps up a certain amount of chronic irritation.

Intravenous Injection of Diphtheria Antitoxin.—Iversen asserts that the intravenous injection of diphtheria antitoxin is not a dangerous method. It should be the method of choice, even in patients who have previously received serum. It is only necessary to give the injection slowly, and temporarily or definitely discontinue it on the appearance of any reaction by the patient. The most unfavorable attacks after reinjection occur at the time when the serum rash appears.

Treatment of Gluteal Aneurysm.—Aneurysm of the gluteal artery, Adam says, should be treated by (1) preliminary ligation of the internal iliac. This is in itself harmless and will control hemorrhage from the sac; (2) the aneurysmal sac is dealt with locally according to the condition found in the buttock: (*a*) if the wall of the sac is ill defined, as in this case of ruptured aneurysm, intrasaccular ligation is best; (*b*) if a well formed sac is present, then obliterative endo-aneurysmorrhaphy is the ideal method.

Practitioner, London

February, 1923, **110**, No. 2

Recent Work on Diseases of Heart. C. W. Chapman.—p. 137.
Essential Enuresis. K. M. Walker.—p. 145.
Sigmoidoscope and Its Uses. L. E. C. Norbury.—p. 156.
Diagnostic Significance of Uterine Hemorrhage. M. Donaldson.—p. 168.
Cancer of Breast: Its Treatment by Roentgen Rays and Electricity. F. Hernaman-Johnson.—p. 177.
Influence of Abdominal and Thoracic Lesions on Respiratory System. D. J. Harries.—p. 188.
Zinc Ions in Psoas Abscess. M. Wardle.—p. 195.
Case of Tetanus. J. O'Neill.—p. 196.

March, 1923, **110**, No. 3

*Therapeutic Value of Vomiting in Intestinal Obstruction and Acute Appendicitis. C. Symonds.—p. 205.
Dupuytren's Contraction of Palmar Fascia and Some Other Deformities. A. H. Tubby.—p. 214.
*Venous Thrombosis During Attack of Acute Rheumatism in Child. F. J. Poynton.—p. 221.
Surgical Aspect of Gastric Ulcer. W. H. C. Romanis.—p. 224.
Interrelation of Certain General Conditions with Gastro-Intestinal Disorders. T. I. Bennett.—p. 242.
Some Problems of Prostatectomy. C. Morson.—p. 253.
Early Diagnosis and Treatment of Disseminated Sclerosis. E. W. Scripture.—p. 259.
Cerebral Hemorrhage. J. Burgess.—p. 261.
Thickening of Skin, or Cornification, as Signs of Abscess Formation in Palm and Sole. F. D. Bana.—p. 263.

Value of Vomiting in Intestinal Obstruction and Appendicitis.—Cases are reported by Symonds to illustrate the value of vomiting as a life saving symptom in these cases. He insists that the free administration of fluids, principally water, in suspected intestinal obstruction or acute appendicitis is sound practice. After operation vomiting should be encouraged, especially in advanced cases, until the rejected material is free from bile. When hiccup is present and vomiting does not follow the free exhibition of fluids, the stomach should be washed out, in severe cases every four hours, in others, two or three times a day. The injured bowel will maintain obstruction for from two to four days, and during this period the best treatment is to encourage vomiting. To permit the reflexes to come into operation as soon as possible (*a*) the preoperative dose of morphin should be omitted; (*b*) the operation should be as brief as possible, and the minimum amount of anesthetic employed, and (*c*) morphin should be withheld until the rejected material is free from bile. When free vomiting has occurred, the symptoms of toxemia are absent, and, therefore, the prospects of recovery after operation are immensely increased. The cases also show that movement does no harm; in fact, Symonds says it is beneficial, for if vomiting results the danger is removed.

Venous Thrombosis During Attack of Acute Rheumatism in a Child.—Poynton relates the case of a boy, aged 13, who after a chill from swimming, developed articular rheumatism. The arthritis subsided in a week, to be followed by the sudden development of chorea, and later by renewed arthritis, carditis and pleurisy. The type of chorea was essentially paralytic, with profound mental disturbance and great general weakness. After a few days in the hospital the chorea was found to be increasing in intensity. There were also present complete incontinence and dumbness. Then the right elbow became acutely painful, the temperature never reached the normal line, and the heart beat more rapidly and was more dilated. A small patch of pleurisy was detected over the right lung anteriorly. On the thirteenth day all the superficial abdominal veins below the umbilicus on both sides were distended and formed a tracery over the hypogastrium. The blood flow downward was impeded, and there seemed no escape from the diagnosis of a venous thrombosis at the lower end of the inferior vena cava or the upper end of both common iliac veins. Next, the ankle joints swelled and became very painful; the heart had a cantering rhythm; the circumference at a selected level on the right thigh was 5 inches greater than on the left. The left thigh began to swell, but the right limb was diminishing in size. Improvement was rapid and steady, with the exception of a transient arthritis of the left elbow joint.

Sei-I-Kwai Medical Journal, Tokyo

42: 1-28 (Feb.) 1923

*Deafness Through Mumps. M. Kurosu.—p. 1.
Urease. T. Yokota.—p. 24.
Comparative Study of Power of Intestinal Antiseptics Observed from Amount of Urine Indican. H. Nagaoka.—p. 26.
Studies of Staircase Phenomenon. Part I. Liberal Consideration. S. Uramoto.—p. 28.

Deafness Through Mumps.—Eleven cases of deafness complicating mumps are reported by Kurosu. The principal cause seems to be neuritis, which arises through a toxin produced by the exciting agent of parotitis. The seat of the affection is usually said to be retrolabyrinthine, as the affections of the vestibularis appeared in all these cases except one, in which the blindness developed exceptionally slowly. Meningitis, too, may be the cause of mumps-deafness, but seems to be responsible for it only very rarely. There may, however, be cases, in which it is clinically impossible to decide if meningitis or neuritis is the real cause. The primary seat of the injury to the acoustic nerve has not been determined.

Tubercle, London

February, 1923, **4**, No. 5

Gas Embolism and Other Accidents of Chest Puncture. C. Lillingston.—p. 193.
Treatment of Pulmonary Hemorrhages by Artificial Pneumothorax. M. J. Fine.—p. 200.
Thermolite Lamp; Results at a Tuberculosis Institute. F. Clifford.—p. 204.

4: 241-268 (March) 1923

Influence of Industrialism on Age Incidence of Phthisis. E. L. Collis.—p. 241.
Experiences of Refractory Industries (Silicosis) Scheme, 1919. C. L. Sutherland and W. C. Rivers.—p. 255.

Annales de l'Institut Pasteur, Paris

37: 1-106 (Jan.) 1923

*Neurotropic Ectodermoses. C. Levaditi and S. Nicolau.—p. 1.

Research on Vaccinia: Neurotropic Ectodermoses.—Levaditi and Nicolau have succeeded in cultivating vaccine virus serially in rabbits' brains, like rabies virus. With this neurovaccine, as they call it, they have apparently demonstrated that only the tissues derived from the ectoderm are susceptible to infection from the filtrable, invisible viruses. Bacteria, spirilla, fungi and protozoa induce infection only in the tissues derived from the mesoderm. Each of these two groups of infectious agents is thus restricted in its action to one of the embryonal layers. The agents of the mesodermoses induce immunity by means of phagocytosis and a bactericidal and antitoxic action. The agents of the ectodermoses induce immunity by producing a local refractory condition. Probably the two embryonal layers have a different physicochemical composition; very few micro-organisms seem to have an affinity for both. The spirochete of syphilis is one of the few exceptions. The very existence of vertebrates depends on the fact that the pathogenic micro-organisms which swarm on the skin, intestines and nasopharynx are virulent only for the mesoderm and not for the ectoderm. Among the ectodermoses, they call attention to the neurotropic subgroup comprising vaccinia, herpes, encephalitis,

rabies and poliomyelitis. The invisible viruses of this subgroup have many characteristics in common, especially the intense affinity for the central nervous system and a less pronounced affinity for the external segment of the ectoderm, the skin, cornea and nasopharyngeal mucosa. The virus does not attack any cells unless they are of the ectoderm (or endoderm) and in a condition of regenerative proliferation or karyokinetic rejuvenation from some irritation. The research reported sustains the assumption that the virus of vaccinia, herpes and encephalitis spreads rapidly by the blood or peripheral nerves to all the tissues for which it has an affinity. After recovery each receptive tissue is left refractory to further infection of the same kind. General immunity is thus an accumulation of as many partial immunities as there were susceptible tissues to begin with. The refractory state gradually wears off. This occurs the more rapidly, the more rapid the regeneration of the tissue involved. The article is profusely illustrated.

37: 107-227 (Feb.) 1923

*New Principles of Therapeutic Inoculation. Sir Almroth E. Wright, L. Colebrook and J. Storer.—p. 107.
*Plurality of Syphilis Viruses. Fournier and Schwartz.—p. 183.
Anthrax Pustule Necrotic from the Start. Morel.—p. 225.

Test for Power of Immunizing Response to Therapeutic Inoculation: Vaccine Response Test.—One of the new principles involved in therapeutic vaccination, which have been discovered by Wright and his co-workers, is that antibacterial substances come—not from the tissues—but from the leukocytes. The leukocytes spontaneously set free bactericidal and opsonic substances when vaccines in appropriate concentration come into operation on the leukocytes in the blood, both in the living body and in the test tube. "A test tube vaccine response test is thus possible by introducing graduate quanta of vaccine into a series of volumes of the patient's blood and seeing whether there is any improvement in the phagocytic power of the vaccinated bloods or in the opsonic power of the serums. Investigations of the bactericidal power can also be carried out when there is no emergency. We can thus ascertain readily whether a patient is or is not capable of an immunizing response. Where he is competent to make such response, we can further ascertain to what dose of vaccine, intravenously inoculated, he will be able to make the optimum response." In the alternative of his not being able to make immunizing response, we can evoke the immunizing response in the healthy blood of another subject, and inject the latter's blood—an immunotransfusion, as Wright calls it. [Practically this same article appeared in the *Lancet* of Feb. 24, March 3 and 10, 1923, and the general conclusions were summarized in these columns April 28, p. 1273.]

Plurality of Spirochetes of Syphilis. — Fournier and Schwartz relate that syphilitic chancres which developed in rabbits after inoculation with material from different patients showed such differences in character and course that the spirochetes inducing them apparently belonged to different species. They describe experiments which confirm the difference between the dermotropic and the neurotropic strains, and present arguments to show that the latter alone is responsible for general paralysis and tabes.

Bulletin de l'Académie de Médecine, Paris

89: 223-237 (Feb. 13) 1923

*Hygienic Reforms Among Mohammedans in Tunis. Dinguizli.—p. 233.

Hygienic Reforms Among Mohammedans in Tunis.—Dinguizli shows that it would be comparatively easy to introduce hygienic measures among the Mohammedan population, because their ritual contains similar requirements. Two of his quotations from Mohammed are interesting: "The study of the science of the human body shall be given the preference over the study of the religious sciences." . . . "If it were not for that fine dust which we see floating in the sunbeam, and if it were not for the danger from stagnating waters, Adam's son would live ten centuries." The use of alcohol, hashish and opium is widespread among the natives. Being a native himself, Dinguizli asks for prohibition of manufacture and importation, and especially for laws against the sale of all intoxicant drugs to natives.

Bulletins de la Société Médicale des Hôpitaux, Paris

47: 59-100 (Jan. 19) 1923

*Dissociated Icterus. E. Chabrol and H. Bénard.—p. 60.
Purulent Thyroiditis from Paratyphoid Bacilli. Carnot and Blamoutier.—p. 66.
*Neurectomy in Angina Pectoris. Daniélopolu and Hristide.—p. 69.
*Deforming Arthritis and Syphilis. Haguenau and Bernard.—p. 73.
*Anaphylactic Enterocolitis and Dyspepsia. Le Noir et al.—p. 77.
*Anaphylactic Chronic Colitis. Richet, Jr., and de Fossey.—p. 81.
*Treatment by Proteins and Specific Serum in Meningococcemia. L. Blum.—p. 83.
Splenomegaly: Type Gaucher. Harvier and Lebée.—p. 87.

Dissociated Icterus.—Chabrol and Bénard prefer stalagmometry to Hay's test with sulphur flowers for determination of bile salts in urine. They emphasize the possibility of error. The bile salts circulate normally from the liver through the bile to the intestines and back to the liver. If this circle is interrupted by occlusion of the choledochus, there is very little excretion of bile salts. Therefore practically every mechanical icterus is a dissociated icterus (main excretion of pigments) and all other conclusions are erroneous.

Resection of Spinal Nerves in Angina Pectoris.—Daniélopolu and Hristide anesthetized the second and third left spinal nerves in a case of angina pectoris in which the pains corresponded to the area of these nerves. While otherwise the slightest effort caused attacks, none occurred, in spite of the dyspnea, during the anesthesia. They propose therefore the resection of the roots of the nerves corresponding to the pains in this condition (from the eighth cervical to the fourth dorsal).

Deforming Arthritis and Syphilis.—Haguenau and Bernard find no reasons for assuming a syphilitic etiology in chronic arthritis deformans.

Anaphylactic Enterocolitis and Dyspepsia. — Noir, Richet and Barreau publish a case of diarrhea due to raw meat. The skin reaction to it was negative, but was immediately followed by a drop in the number of white corpuscles. Another case of dyspepsia probably due to green peas could be controlled for some time by peptone.

Anaphylactic Chronic Colitis.—Richet and Fossey report a case of intolerance for meat and fish. Ingestion of 0.5 gm. of peptone one hour before the meal was followed with recovery in a short time.

Treatment by Proteins and Specific Serum in Meningococcemia.—Blum observed a very good effect of protein treatment in one case of meningococcemia, but none in another case. This was probably due to a meningeal localization in the second case, which requires specific treatment.

47: 101-142 (Jan. 26) 1923

Deforming Arthritis. Milian.—p. 102.
Meningococcemic Cyanosis and Purpura. Clerc et al.—p. 102.
*Essential Incontinence of Urine. Delbet and Léri.—p. 105.
Agglutination of Meningococci. Dopter et al.—p. 106.
Ulcerous Pulmonary Tuberculosis in Paratyphoid. Eschbach and Laprade.—p. 112.
*Foreign Body Simulating Chronic Bronchitis. Halphen.—p. 114.
Serotherapy in Gonococcus Arthritis. Merklen and Minvielle.—p. 116.
Idem. Clerc and Perrochaud.—p. 118.
Complications of Gonorrhea. Stérian.—p. 121.
*Menacing Pneumothorax. Emile-Weil and Isch-Wall.—p. 127.
Herpes Zoster and General Vesicular Eruption. Jeanselme and M. Bloch.—p. 131.
Pocket Apparatus for Percussion and Auscultation. Chiray.—p. 134.
*Two Atypical Cases of H. Roger's Disease. Variot and Cailliau.—p. 135.

Surgical Cure of "Essential" Urinary Incontinence Due to Occult Spina Bifida.—Delbet and Léri report that after failure of roentgen treatment they operated, removing a pad of fibrocartilaginous tissue which had been compressing the dura and the cauda equina. The enuresis was cured at once and permanently.

Unsuspected Foreign Body in Bronchus Simulating Chronic Bronchitis.—Halphen extracted a foreign body which had induced localized bronchitis. The cause was not suspected until a roentgenogram was taken. The mucopurulent secretion was a guide in the bronchoscopy, leading to a bronchus of the second degree. Recovery was complete.

Treatment of Suffocating Pneumothorax.—Emile-Weil and Isch-Wall report a case of pneumothorax with increased

pressure. The suffocative attacks ceased after repeated intrapleural injections of medicated olive oil. The oil reached at last the height of the third rib. They intend to perform an artificial pneumothorax later. In the discussion that followed, F. Ramond proposed to use pure olive oil without any addition, since the action seems to be due simply to the viscosity of the oil.

Two Atypical Cases of Roger's Disease.—Variot and Cailliau present the organs of two cases of opening in the interventricular septum. Both patients had a loud and long systolic murmur over the whole pericardiac region, without cyanosis (Roger's disease), yet radiography showed a greater enlargement of the ventricle than one finds usually. The first case had a stenosis of the pulmonary valve while the other was typical. The hypertrophy of the left ventricle in this case may be due to nephritis.

Presse Médicale, Paris

31: 109-120 (Feb. 3) 1923

Treatment of Aneurysms. R. Matas (New Orleans).—p. 109.
*Anaphylactic Conjunctivitis. H. Lagrange.—p. 112.
Infundibulo-Pituitary Syndromes in Epidemic Encephalitis. J. Mouzon. —p. 113.

Anaphylactic Conjunctivitis.—Lagrange reports a case of conjunctivitis in a diabetic, subject to attacks of urticaria. Manipulation of wood was the cause, and an application of oak bark provoked a marked hemoclastic crisis.

31: 193-238 (Feb. 28-March 10) 1923

*Radium Treatment of Cancer of Esophagus. J. Guisez.—p. 193.
*Rupture of Intercostal Artery. J. Henrichsen.—p. 195.
Remarks on Vitiligo. K. Lindberg.—p. 196.
*Hepatitis and Cholecystitis of Intestinal Origin. Brulé and Garban. —p. 205.
*Masked Hypertension in Surgical Cases. Jeanneney and Tauzin.—p. 207.
The Vitamins in Decoctions of Cereals. M. Springer.—p. 208.
Present Status of Research on Pressure in the Capillaries. M. Weiss. —p. 211.
*Pathogenesis of Hemorrhagic Pancreatitis. Brocq and Binet.—p. 219.
*Influenza and Epidemic Encephalitis. Volpino and Racchiusa.—p. 222.
Nutrition in the Obese. M. Labbé.—p. 227.
*Localized Ossifying Myositis. Chaton and Caillods.—p. 228.
*Hepatism: Chronic Functional Disease of the Liver. R. Glénard.—p. 230.
Present Status of Symptomatic Treatment of Dysmenorrhea. Cheinisse. —p. 232.

Radium Treatment of Cancer of the Esophagus.—Guisez has applied the radium rays in 180 cases of cancer of the esophagus since 1909. During the first few years the benefit was only palliative, but during the last three years a number of apparent cures have been realized, as the technic has improved. In all the cases treated during the last six months not a trace of the cancer can be seen and all difficulty in swallowing has disappeared. The applications ranged from twelve to twenty-four hours, to a total of sixty to seventy hours of exposure. The endoscopic pictures of a number of cases are reproduced.

Rupture of Intercostal Artery.—The hemothorax after fracture of a rib was successfully treated by resection of the rib.

Liver and Gallbladder Disease of Intestinal Origin.—Brulé and Garban examine the urine for urobilin and bile salts as a routine practice, and they have been amazed at the prompt reflection in the functioning of the biliary apparatus of even slight intestinal derangement, an exceptionally hearty meal, or period of constipation. They assert that the diagnosis of gallstone disease will be made less frequently when liver and gallbladder disease of intestinal origin is better known. Calomel and saline purgatives, given to act on the biliary apparatus, may injure an already damaged bowel. Both intestines and biliary apparatus may improve under treatment with inert powders, oily or mucilaginous laxatives, digestive ferments or lactic acid ferments. They have had occasion to treat patients who had had their appendix or gallbladder removed on a mistaken diagnostic basis, and the intestine and liver had continued to suffer as before.

Masked Arterial Hypertension.—Jeanneney and Tauzin refer to cases in which the high blood pressure is temporarily masked by some intercurrent factor causing hypotension.

Pathogenesis of Hemorrhagic Pancreatitis.—Brocq and Binet were able to induce hemorrhagic pancreatitis with fat necrosis in dogs in the absence of any infectious process. It is the result of autodigestion of the pancreas, but this requires the activation of the pancreatic ferments by some extraneous substance, such as bile or intestinal juice, finding its way into the pancreas. This is liable to occur with duodenal stasis from spasm, overfilling of the digestive tract, or other cause. An operation on the pancreas relieves the immediate danger but a second operation may be necessary to remove the cause. The pylorus, the duodenum and the duodenojejunal angle should all be examined to discover the mechanical cause inducing the reflux of bile or intestinal juice into the pancreas.

Influenza and Epidemic Encephalitis.—Volpino and Racchiusa report that rabbits inoculated with virus from human influenza sputum developed a fatal disease closely resembling epidemic encephalitis in man. No bacteria were found in the rabbits, but the brain cells showed peculiar inclusions which resembled Negri bodies in rabies. Other findings suggested those of human epidemic encephalitis.

Focus of Myositis with Necrobiosis.—Chaton and Caillods found the bones in the leg normal in a man, aged 65, who presented a large encapsulated tumor in the leg containing numerous spicules of bone. The roentgenograms are reproduced and the lesion defined as an ossifying inflammatory process in the muscle tissue, showing pronounced necrosis. The characteristic roentgenograms excluded the first presumptive diagnosis of sarcoma, and a complete cure followed evacuation of the products of necrobiosis of the degenerated muscle.

Hepatism.—Glénard includes in this term the diseases of nutrition, gastro-intestinal dyspepsia and neuropathies, as well as the pathology of the liver itself. He defines the various pathologic syndromes resulting from disturbances in any one of the twelve known functions of the liver.

Schweizerische medizinische Wochenschrift, Basel

53: 105-132 (Feb. 1) 1923

*Radium Treatment of Uterine Cancer. O. Beuttner.—p. 105.
*Multiple Sclerosis and Its Etiology. E. Long.—p. 109.
*Serodiagnosis of Tuberculosis. N. Takenomata.—p. 112.

The Result of Radium Treatment of Carcinoma of the Uterine Cervix.—Beuttner, on the basis of sixty-three cases observed during the last eight years, believes that the result of radium treatment depends less on the microscopic form of the carcinoma or the number of applied milli-curie-hours than on the age and general condition of the patient. The older patients give the best results. The prognosis of carcinoma in comparatively young women has improved through radium treatment. Radio-active bodies are also given intravenously, based on Kotzareff's experiments on fixation of the emanation in embryonic and malignant cells. The experiences related have demonstrated that even if it still is an open question as to whether operable carcinomas should be removed by the knife or by radium or roentgen rays, irradiation has given better results in inoperable cases than the old palliative methods.

Multiple Sclerosis and Its Etiology.—Long, basing his statement on statistics, says that only 20 or 25 per cent. of the cases diagnosed as multiple sclerosis are of the classic form, with all the symptoms described by Vulpian and Charcot. The recent experiments caused a change in the conception of the etiology of this disease: Inoculations of the cerebrospinal fluid of multiple sclerosis patients and the nerve substance seemed to prove that there is a specific virus which produces the disease. The hope awakened by arsphenamin must be abandoned.

Serodiagnosis in Tuberculosis.—Takenomata, experimenting with serum from forty-five tuberculous and suspect patients and forty-eight controls, has shown the complement-fixation reaction to be of positive assistance in diagnosis. In tuberculosis of the lungs, tuberculous pleuritis, and also in other tuberculous affections, the complement-fixation reaction is, as a rule, positive though in the early stages the reaction may be uncertain. The Besredka antigen (made from tubercle bacilli, cultivated in egg-bouillon, and killed by heating) has proved itself efficient, but the bacillary emul-

sion of human types produced by Takenomata served the purpose at least equally well. Tuberculin is not so efficient as antigen.

Policlinico, Rome

30: 57-112 (Feb. 15) 1923. Surgical Section

*Malarial Splenomegaly and Its Complications. O. Cignozzi.—p. 57.
Traumatic Dislocation of the Testis. M. Margottini.—p. 68.
Subphrenic Abscesses. G. Pisano.—p. 74.
*Trauma in Origin of Tumors. G. Pistocchi.—p. 83. Cont'd.
Two Cases of Cystic Pneumatosis. L. Torraca.—p. 112.

Malarial Splenomegaly.—Cignozzi denounces attempts to remove a normally located spleen, no matter how much it is enlarged. Medical measures alone are all that is needed. But in case of rupture or displacement of the spleen, or suppuration in or near it, an operation is necessary. He gives details of seventeen cases in this latter group and the ultimate outcome after splenectomy in fifteen. The blood-producing organs gradually assume the tasks of the spleen, so that the blood returns to normal after five or six months. Malaria may recur after splenectomy, and three of Cignozzi's cases seem to suggest that the resisting power to septic affections is reduced by splenectomy. One woman, for instance, developed fatal puerperal fever seven years after the spleen had been removed. A conservative operation on the spleen exposes to recurrence of the malaria; it is better to remove the entire organ with its lurking parasites.

Cancer and Trauma.—Pistocchi reports a case of primary lymphosarcoma of the stomach found at necropsy five months after severe contusion of the epigastrium. The pain had been intense at the time and persisted continuously afterward, suggesting at first fracture of ribs. The pain finally localized in the stomach. It was not aggravated by food. The exacerbations resembled colic and tabetic crises. He is inclined to accept a direct connection with the trauma in this case.

Semana Médica, Buenos Aires

1: 185-228 (Feb. 1) 1923

*Intracranial Hypertension in Children. A. Segers.—p. 185.
Intracutaneous Tuberculin Reaction in Parturients and the New-Born. M. L. Pérez.—p. 188.
Vaccine Therapy in Acute Urethritis. E. Castaño.—p. 197.
Tuberculosis in the Army. J. A. López.—p. 204.
*Suggestion in Crime. J. C. Belbey.—p. 210.
Case of Eunuchoidism. C. L. Echevarne.—p. 219.
Findings a Year After Total Colectomy. P. Barbieri.—p. 223.
Anaphylaxis to Antialpha Vaccine. J. Ferrán.—p. 224.

Intracranial Hypertension in Children.—Segers declares that physicians wait too long before diagnosing intracranial hypertension, allowing the causal lesions to become irreparable. He cites a number of instructive cases, and warns that examination of the fundus of the eye should never be neglected or postponed when a child presents headache, vomiting and persistent constipation without well defined cause. The neurologist locates the lesion and the frequent success with surgery in such cases justifies prompt intervention. Syphilis has been found a factor in not more than 1 per cent. of the total cases of brain tumors in children, and specific treatment is futile in these cases, although the focal changes at the first doses of mercury often seem to confirm the diagnosis. In one girl, aged 10, the operation completely and permanently cured the left hydrocephalus. The symptoms had been noted fifteen months before, and the girl had been blind for a month. She is now healthy but blind. Another child presented symptoms of a tumor in the cerebellum. Under mercurial treatment, stomatitis and ulcerating sore throat developed, and the child soon died. Necropsy disclosed a single tuberculoma which could easily have been shelled out.

Suggestion in Crime.—This is a medical study of famous examples in literature, from Don Quixote and Othello to Vargas Vila and D'Annunzio's recent novels.

Deutsche medizinische Wochenschrift, Berlin

49: 105-136 (Jan. 26) 1923

*Kidney Function Tests. Schlayer.—p. 105.
Etiology of Tumors. E. Schwarz.—p. 108.
"Predisposition to Tumors." W. Roux.—p. 110.
*Assimilation in Avitaminosis and Hunger. J. A. Collazo.—p. 110.
*Peripancreatic Fat Necrosis Due to Gallstone. Schottmüller.—p. 112.
*Rheumatic Purpura. E. Rautenberg.—p. 112.
*Anesthesia and Tuberculin Reaction. H. Biberstein.—p. 113.
*Tuberculosis and Pregnancy. Winter and Oppermann.—p. 115. Conc'n.
*Early Diagnosis of Pregnancy. L. Lewin.—p. 117.
Obesity in Emphysematous Habitus. J. Deupmann.—p. 118.
Objections to Mixed Arsphenamin and Mercury Treatment. H. Nover. —p. 119.
Diverticula of Esophagus. H. Krekel.—p. 119.
Action of Blood Transfusions. Opitz.—p. 120.
Filaments and Rods in Blood. H. Zeller.—p. 120.
Mole in Twin Pregnancy with One Normal Ovum. Günther.—p. 121.
Relative Aspermia without Urogenital Disease. Huhner.—p. 121.
Portable Examining Table. Freistadt.—p. 121.
For and Against Compulsory Vaccination. Liebermann.—p. 122.
*Smallpox in Switzerland. Sobernheim.—p. 122. Conc'n p. 155.

Kidney Function Tests.—Schlayer recommends the use of several tests. The dilution and concentration tests are good in every form. The "tissue factor" does not interfere with the use of the tests, if the results are considered critically. Determining the elimination of added urea or salt is not a reliable test. Even a very sick kidney may eliminate quantitatively.

Assimilation in Avitaminosis and Hunger.—Collazo finds that the animal loses its vitamins if it is on a diet without vitamins, but keeps them during starvation. This accounts for the fact that starving dogs increase at first in weight if they get food without vitamins. Organs from starving animals act like food containing vitamins, while organs from dogs which were on a diet without vitamins have no action. Hunger acts in a certain sense as prophylaxis against loss of vitamins.

Peripancreatic Fat Necrosis Due to Gallstone.—Schottmüller publishes a case of fat necrosis around the pancreas in a woman with an incarcerated gallstone in the duodenal papilla.

Rheumatic Purpura.—Rautenberg had striking results with intraspinal injections of 4 c.c. of a 0.5 per cent. solution of novocain in normal saline. The red spots in his cases were not real hemorrhage, and disappeared very quickly.

Anesthesia and Tuberculin Reaction.—Biberstein did not find inhibition of the tuberculin test by previous local anesthesia.

Tuberculosis and Pregnancy.—Winter and Oppermann consider artificial abortion and eventual sterilization as a safe means to protect tuberculous women from the dangers of pregnancy.

Early Diagnosis of Pregnancy.—Lewin examined 100 women for glycosuria after injection of 2 mg. phlorizin; 8 per cent. of the 50 controls were positive. Most of the pregnant women in the earliest stages were also positive.

Smallpox Epidemic in Switzerland.—Sobernheim shows by statistics the causal relation between the "conscientious objectors" and the cases of smallpox in Switzerland.

Klinische Wochenschrift, Berlin

2: 237-284 (Feb. 5) 1923

Extrapyramidal Motor System. Lewy.—p. 237. Conc'n.
Diseases of Bones and Growth. F. J. Lang.—p. 240.
*Dosage of Roentgen and Radium Rays. E. Opitz.—p. 243.
*Determination of Hypoxemia. F. Kauders and O. Porges.—p. 247.
*Dyspepsia of Infants. A. Adam.—p. 248.
*Postural Treatment of Bronchial Disease. Schaefer.—p. 252.
Dorsal Subluxation of Metacarpus of Thumb. Sonntag.—p. 253.
*Treatment of Hypertrophy of Prostate by Vasectomy. Landau.—p. 255.
*Spontaneous Appearance of Spirochetes Resembling Pallida in a Non-syphilitic Rabbit. F. Neumann.—p. 256.
Diagnosis of Normal and Extrauterine Pregnancy and Ovarian Hematomas. M. Samuel.—p. 257.
*Quantitative Test for Bilirubin. Adler and Meyer.—p. 258.
History of Neosilversarsphenamin. A. Binz.—p. 259.
Iso-Electric Point of Mammalian Corpuscles. Straub and Meier.—p. 260.
Significance of Potassium Ions for Muscle Tonus. Neuschlosz.—p. 260.
*Guanidin Poisoning. L. Nelken.—p. 261.
Speed of Sedimentation of Erythrocytes in Hemoclastic Crisis. E. Wiechmann and E. von Schröder.—p. 261.
Osteomyelitis of Pubis Simulating Tuberculous Fistula of Anus in a Child. H. Plaut.—p. 262.
Surgical Treatment of Pylorospasm in Infants. Heile.—p. 262.
*Pulmonary Tuberculosis in School Children. Poelchau.—p. 265.
Chemistry of Proteins and Biology. H. Handovsky.—p. 267.

Dosage of Roentgen and Radium Rays.—Opitz finds that there is no dose which will annihilate the carcinoma in every case. He is strictly opposed to Seitz and Wintz' "carcinoma dose" and still more to their "sarcoma dose." The general

action of the rays on the whole body is an important factor, which may be beneficial or injurious, according to the dose.

Determination of Hypoxemia.—Instead of using arterial blood and gas analysis, Kauders and Porges take a drop of blood from the ear in a capillary tube and compare its color with the blood of a healthy subject, to estimate the carbon dioxid content.

Dyspepsia of Infants.—Adam points out that the strains of colon bacilli found in dyspeptic infants have a stronger fermentative and a weaker putrefactive action than normal strains. The foods which produce or increase dyspepsia (peptone, sugars, fatty acids and alkaline soaps of the feces) increase the growth of these strains. Food which is indicated in this condition (amino-acids, casein, calcium) inhibits the growth of these bacilli.

Postural Treatment of Bronchial Disease.—Schaefer tried Quincke's method on eleven patients suffering mostly from bronchiectasia. The patient remains, after the usual expectoration in the morning, for two hours in a horizontal position and, when accustomed to it, the foot end of the bed is raised for about 30 cm. The method is excellent only in localized disease of the lower lobes.

Treatment of Hypertrophy of Prostate by Vasectomy.—Landau reports 26 cases of hypertrophy of the prostate, in which radical operation was contraindicated because of the general condition of the patients. He resected both vasa deferentia and had 10 failures and 16 very good results. He attributes the subjective and objective improvement in most of the cases to the relief from the prostatic trouble and not to a rejuvenation in the sense of Steinach.

Spontaneous Appearance of Spirochetes Resembling Pallida in a Nonsyphilitic Rabbit.—Neumann found spirochetes resembling the pallida in an isolated rabbit which he scarified near the vulva. He doubts the absolute diagnostic value even of typical spirochetes found in man.

Quantitative Estimate of Bilirubin in Urine.—Adler and Meyer recommend Grimbert's test: Add 0.25 gm. barium chlorid to 5 c.c. of urine and centrifugate. Extract the sediment with alcohol, containing 4 per cent. of hydrochloric acid, by stirring and keeping a few minutes in water at 70 or 80 C. The green color is specific, and may be used for quantitative estimation.

Influence of Guanidin Poisoning on Calcium and Phosphates of the Blood.—Nelken found in rabbits and cats poisoned with guanidin an increase in the calcium and phosphates of the blood.

Pulmonary Tuberculosis in Schoolchildren in Berlin Suburb in 1921.—Poelchau found in 1921 a slight increase in tuberculosis in boys in Charlottenburg over the figures of 1912. The girls have the same rate as in 1912.

Medizinische Klinik, Berlin

19: 133-162 (Feb. 4) 1923

Constitutional and Familial Hyperglobulia. H. Curschmann.—p. 133.
Metabolism in Dermatology. E. Pulay.—p. 135. Conc'n.
*Treatment of Hemoptysis. H. Horalek.—p. 138.
*Gymnastic Exercises for Infants. E. Czapski.—p. 140.
Treatment of Essential Enuresis. F. Fischer.—p. 142.
Premature Senility of Face. Landsberger.—p. 143.
*Colibacteriophages. O. Bail.—p. 144.
Estimation of Onset of Disability. Wulsten.—p. 146. Cont'n.
Hypnotics. C. Bachem.—p. 147. Cont'd.
Diseases of Bladder. E. Portner.—p. 149.
Recent Literature on Ophthalmology. Adam.—p. 150.
Recent Literature on Menstruation. W. Liepmann.—p. 151.

Treatment of Hemoptysis.—Horalek recalls the temporary ligation of the extremities, which was recommended by Hippocrates. Its action consists in the increase in coagulability of the blood. Another similar remedy is the intravenous injection of 5 c.c. of a 10 per cent. solution of sodium chlorid with 0.2 gm. of calcium chlorid and addition of a little of a digitalis preparation, as recommended by Windrath. Digitalis helps in cases when the weak heart causes passive congestion in the lungs.

Gymnastic Exercises for Infants.—Czapski recommends gymnastics for infants after the sixth month, if they are too fat or weak. Beginning rachitis was well influenced.

Colon Bacilli Bacteriophagy.—Bail uses the specificity of resistance against bacteriophages as a means to differentiate bacteriophage strains. He found, however, one exception in a strain that formed much mucus. This strain was generally resistant. The cause of this behavior was that the mucus acted as a protecting colloid against all bacteriophages, in the same way as gelatin. Its action was in proportion to the concentration, and the strain lost its resistance with the loss of formation of mucus. The specific resistance is inherited. Another interesting fact was that a strain which became resistant against one bacteriophage, lost its former resistance against others. If it was cultivated with these, it became again resistant to them, but was dissolved by the first bacteriophage. This experiment was repeated several times.

Münchener medizinische Wochenschrift, Munich

70: 137-166 (Feb. 2) 1923

*Birth Injuries and Their Consequences. H. Siegmund.—p. 137.
*Influence of Musical Rhythm on Motor Sequelae. E. Meyer.—p. 139.
*Therapeutic Effect of Inflammation on Sepsis. F. Rolly.—p. 139.
*Unsteward Effects of Bismuth Treatment. Görl and Voigt.—p. 143.
*Tissue Cultivation in Study of Typhus. Krontowski and Hach.—p. 144.
*Syphilis Acquired in Aspirating from New-Born Infant. Sigwart.—p. 146.
Intravenous Injections of Morphin by Addict. Gruber.—p. 147.
*Anopheles and Malaria in Baden. F. Eckstein.—p. 147.
Cephalad Displacement of Transverse Colon by Trauma. Hofmann.—p. 149.
Apparatus for Graduated Vacuum Suction. Herz and Stern.—p. 149.
Blister Fluid in Prophylactic Serotherapy. Thomas and Arnold.—p. 150.
Improved Technic for Turbidity Test. E. Meinicke.—p. 150.
Migraine in Children. F. Hamburger.—p. 150.
*Treatment of Women with Myoma. M. Nassauer.—p. 152.

Birth Injuries to the Brain and Their Consequences.—Siegmund maintains that it is the vascular system which is most directly affected by birth trauma. Mechanical injuries to the small vessels cause disturbance in the circulation, stasis, diapedesis of erythrocytes and, as a result, impairment of the nourishment of adjacent tissues. The resulting degeneration may lead to complete necrosis. Such softening processes stand in close relation with the development of cysts, porencephaly, sclerosis, microgyria, etc. Small foci of cicatricial softening are often found in infants, especially in the premature, within the first six months. Because of the active metabolism in children, even slight disturbances may exert a great influence on the formation of the central nervous system, more particularly of the medulla. Subdural hemorrhage may entail external hydrocephalus while intracerebral hemorrhage may lead to internal hydrocephalus. The fatty degenerative process of neuroglia, known as encephalodystrophia of the new-born is, in the majority of cases, due to birth trauma. Sigmund asserts that any one who has had occasion to examine postmortem a large number of recently born infants cannot fail to be impressed by the intense hyperemia not only of the skin but of the cerebral meninges and the brain tissue. He is convinced that many deaths during delivery are the consequences of minute hemorrhages and diapedesis occurring from birth trauma.

Therapeutic Influence of Musical Rhythm on the Parkinsonian Motor Sequelae of Epidemic Encephalitis.—Meyer, basing his opinion on four cases, believes that motor disturbances of this nature can be benefited by cultivating a sense of rhythm in the patients through music. One of the patients, showing the purely lethargic form of epidemic encephalitis, who spent his days in complete inactivity, as if shackled, but without other sure symptoms of the parkinsonian syndrome, roused himself toward evening and danced to mandolin music. Another, with pronounced parkinsonian symptoms, was tested with marches, played on a mouth organ, to which he walked faster and with better carriage than otherwise, and also used his arms better. He had been a soldier only for six months and had never been specially interested in music. The other two patients responded similarly to musical rhythm. Hauptmann and Steiner, who lately have made similar experiments, believe that encephalitic motor disturbances are not only amenable to influences from without but also from within the patient, and suggest that the awakening of sex feelings may be of therapeutic value.

The Therapeutic Effect on Sepsis of Local Inflammation and Abscess Formation.—Rolly reports that in a case of severe puerperal sepsis, by mistake, twenty-four subcutaneous (instead of intravenous) injections of a silver salt had been made in the lower extremities. Inflammation and abscesses developed around the needle holes. The recovery of this apparently moribund patient led him to repeat the experiment in another case of the same nature. Pure cultures of ordinary streptococci were found in the blood and pus of the abscesses. The streptococci disappeared from the blood in seventeen days, and the patient recovered. Later he inoculated mice to induce pneumococcus bacteremia and found that these animals survived longer when inflammation and abscesses could be produced by subcutaneous injection of a silver salt or turpentine. The general reaction to the local inflammatory process may be beneficial or the reverse. Hence he advises a fixation abscess only as a last resort.

Untoward Effects of Bismuth Treatment for Syphilis.—Görl and Voigt caution against the use of bismuth when there is disease of internal organs, especially of the heart. Their experience has shown that even a dose of 0.4 gr. is liable to induce menacing weakness and irregular heart action.

Cultivation of Tissues in Study of Typhus.—Krontowski and Hach have long been experimenting on the behavior of typhus virus in tissue scraps and in explantation. They used the leukocytes of typhus patients, scraps of skin from the petechiae, the brain tissue, or the spleen or brain tissue of guinea-pigs with experimental typhus. Among the points learned in experiments on 205 guinea-pigs is that the virus in spleen tissue kept at body temperature under aseptic conditions loses its potency so rapidly that after the second day typhus fails to develop after inoculation with it. But cultivation of typhus spleen tissue by the explantation technic for three or five days, allowed the persistence of virulence, and guinea-pigs inoculated with the cultures all developed typical typhus. Hence the cultivated tissue evidently contained the virus. The explantation technic opens a new field for research on the experimental biology and morphology of typhus virus.

The Tracheal Catheter in Transmission of Syphilis from the New-Born.—The maternity nurse developed a primary syphilitic lesion in the tonsil after aspirating the mucus and fluid from the throat of a new-born infant. Sigwart says that he has been able to find in the literature only one analogous case (Wigglesworth, 1884) with the tracheal catheter.

Mosquitoes and Malaria in Baden.—Eckstein emphasizes the fact that the habits of the anopheles and especially their fondness for warmth determine whether they attack domestic animals or man. He ascribes the prevalence of malaria in Baden during the last century in large part to the fact that the barns were so cold that in severe weather the cow and horse were taken into the house. Nowadays, the barns are built to keep out the cold, and they are often warmer than the house. The thermophile *Anopheles maculipennis* in particular is numerous in the barns and not in the houses. Eckstein has also noted a difference in the regions where the cattle are kept in the pasture; the mosquitoes stay with the cattle. When the cattle are driven to the pastures in the morning and return to the barns at night, the mosquitoes stay in the barns, and at twilight sally forth hungry. The barns with numerous swallows were found comparatively free from mosquitoes.

Treatment of Women with Myoma.—Nassauer insists that we must not speak of "treating the disease" but of treating the patient. Any disorder in the heart action without manifest cause should suggest possible myoma. If there is much bleeding with a myoma, he advocates vaginal irrigations with water as hot as the patient can bear with her finger, using 2 or 3 liters, the woman reclining. He discusses the pros and cons of curettement, and advises informing the women that the effect of curettement seldom lasts for more than a few months. The circulation in a myomatous uterus is certainly far from normal, and thrombosis and embolism have been observed after curettement. Operative measures may become necessary if the tendency to hemorrhages cannot be arrested or the myoma presses on adjacent organs, and radiation proves ineffectual or is not available. Only a laparotomy should be considered, and the specialists should then decide whether a subserous myoma should be shelled out, leaving the rest of the uterus intact for future pregnancies, or whether the entire uterus should be removed or the vaginal portion retained. Malignant degeneration of a myoma is by no means rare. For this reason, also, women with myomas should be kept under permanent surveillance. In conclusion he emphasizes the beneficial influence of the family physician's advice in dyspareunia, and other sources of worry.

Wiener Archiv für innere Medizin, Vienna

5: 283-604 (Jan. 30) 1923

The Cheynes-Stokes' Syndrome. S. Wassermann.—p. 283.
*Chemistry of Spinal Fluid. Depisch and M. Richter-Quittner.—p. 321.
*Akropachy. Schirmer.—p. 345.
*Indicanemia in Insufficiency of Kidneys. G. Baar.—p. 353.
Leukemia and Leukocytosis. G. Holler and H. Haumeder.—p. 357.
*Percussion of Hilum. O. Haus.—p. 373.
*Carbon Dioxid and Gastric Secretion. Kauders and Porges.—p. 379.
*Blackwater Fever. Barrenscheen and Glaessner.—p. 409.
*Action of Drugs on Blood Sugar. Grossmann and Sandor.—p. 419.
*Pituitary Extract Diuresis in Nephritis. O. Klein.—p. 429.
*Pulsatory Motions of Diaphragm. Hitzenberger.—p. 451.
*Dilatation of Heart. E. Weiser.—p. 473.
Anatomic Basis of Flint's Murmur. H. Elias.—p. 497.
*Carbon Dioxid and Blood Chlorids. Essen et al.—p. 499.
*Treatment of Anemia with Colloidal Metals. B. Aschner.—p. 523.
*Pharmacology of Vegetative Nervous System. R. Hoffmann.—p. 543.
Diastolic Blood Pressure. S. Peller.—p. 553.
Heart After Muscular Exertion. E. Kauf.—p. 567.
*Diabetic Edema. W. Falta.—p. 581.
*Action of Fats on Gastric Secretion of Acid. P. Frank.—p. 591.

Chemistry of Human Cerebrospinal Fluid.—Depisch and Richter-Quittner examined 167 normal and pathologic cerebrospinal fluids. The depression of the freezing point was always greater than that of the serum. Chlorids are almost always higher than in the serum and sometimes far higher. They believe that this is to compensate for lack of colloids. The sugar and total calcium concentration is always lower. The amount of calcium ions was constant, if calcium was present at all. In some of the fluids, calcium was not present, and these patients complained of headaches, as well as those who had an abnormally high calcium concentration.

Akropachia: Pseudohypertrophic Pulmonary Osteoarthropathy.—Schirmer describes and gives microscopic pictures of a case of infantilism, lymphogranulomatosis and purulent bronchitis with typical clubbed fingers. They contained a tissue which resembled an embryonic mucoid tissue.

Indicanemia in Insufficiency of Kidneys.—Baar recommends examination of the blood for indican as an early and reliable sign of insufficiency of the kidneys.

Percussion of Hilum.—Haus confirms Felsenreich's findings of parasternal fields of dulness adjacent to the central dulness in patients with enlarged lymphatic glands at the hilum.

Relation of Carbon Dioxid Tension of Alveolar Air to Secretion of Stomach.—Kauders and Porges found after meals an increase in the carbon dioxid tension of the alveolar air only in persons whose gastric juice contained hydrochloric acid. Since the tension did not change in patients with carcinoma of the stomach, they conclude that the anacidity in carcinoma is primary, and not due to a neutralization of the secreted acid. The low alveolar tension of patients suffering from malignant tumors seems to be due to the cachexia.

Blackwater Fever.—Barrenscheen and Glaessner believe that the difference between an attack of malaria and of blackwater fever is only quantitative. The resistance of erythrocytes during the attacks of malaria is always lowered. If the washed corpuscles of a person with malaria are treated with the serum of another suffering from blackwater fever, the osmotic resistance of the corpuscles is lowered. The serum has no action on normal corpuscles.

Action of Drugs on Blood Sugar.—Grossmann and Sandor found that atropin lowers the blood sugar level in some instances (sometimes in diabetes) for about a day. They made also tests with epinephrin and pilocarpin.

Pituitary Extract Diuresis in Nephritis.—Klein found four different types of diuresis following injections of pituitary extracts. The action is protracted and less marked in nephritis, but shows differences especially between edematous patients and others without tendency to edema.

Pulsatory Motions of Diaphragm.—Hitzenberger studied roentgenologically the pulsatory movements of the diaphragm. In healthy persons and in cardiac troubles without tricuspid insufficiency or auricular fibrillation, there is in the right half a presystolic movement upward and quicker systolic movement downward. In tricuspid insufficiency (positive venous pulsation of liver) the systolic movement is upward. Pleuropericardial adhesions in the right angle between liver and heart cause a quick systolic movement upward.

Dilatation of Heart.—Weiser finds that small hearts with thin walls and lack of tendency to hypertrophy do not get dilated. Since dilating is a compensatory mechanism, such patients die very quickly if the heart becomes insufficient. The big strong hypertrophic hearts can be repeatedly dilated without having ever caused a deficiency of circulation.

Relation of Carbon Dioxid Tension of Alveolar Air to the Blood Chlorids.—Essen, Kauders and Porges found an intimate relation between the chlorids of the serum and the carbon dioxid tension of the alveolar air. An increase in the serum chlorids is followed by a decrease of the carbon dioxid tension, which is an indicator of the carbonates of the serum. Prolonged ingestion of chlorids or carbonates causes the expected change in the alveolar air. With emphysema, there is high carbon dioxid tension and low chlorids. Nephritics with hyperchloremia have a low carbon dioxid tension. In edemas of other than cardiorenal origin, these relations were not always present.

Treatment of Anemias with Colloidal Metals.—Aschner had no therapeutic results with intravenous injections of a colloidal preparation of iron in nine different cases of anemia. The iron content of the preparation is too low to stimulate erythropoiesis or to block the reticulo-endothelial system. It is besides questionable whether even a real blocking would inhibit a pathologically increased hemolysis.

Pharmacology of the Vegetative Nervous System.—Hoffmann injected pilocarpin and epinephrin in different combinations. He found that the effect depends chiefly on the state of the autonomic nervous system produced by the drug used first. The glycosuric action of epinephrin was enhanced by the subsequent injection of pilocarpin, but inhibited, if pilocarpin was injected first.

Diabetic Edema.—Falta reports a case of diabetes with formation of edema during a diet containing sodium bicarbonate, but free from chlorids. Potassium bicarbonate caused loss of edemas. The urine during the diuretic period contained very little chlorids, and the edema itself had only 0.151 per cent. of chlorin. The depression of the freezing point was normal and caused probably by the bicarbonates. Acidosis cannot be the main cause of diabetic edema, since it is present even in patients who have lost their acidosis.

Action of Fats on Gastric Secretion of Acid.—Frank found that fat taken before a meal lowers the acidity of the gastric juice. If taken during the meal, it does not change it, or increases it if the fat is decomposed.

Wiener klinische Wochenschrift, Vienna

36: 81-100 (Feb. 1) 1923

Structure and Function of Kidneys. E. Schwarz.—p. 81. Conc'n p. 101.
Identity of Virus of Herpes and Encephalitis. Schnabel.—p. 84.
*Action of Gelatin on Bacteriophages. O. Nakamura.—p. 86.
Heart Disease and Trauma. J. Reder.—p. 87.
*Treatment of Dysentery with Sodium Sulphate. T. Hausmann.—p. 89.
Medicolegal Aspects of Cremation. A. Haberda.—p. 89.

Action of Gelatin on Bacteriophages.—Nakamura confirms the inhibitory action of gelatin on bacteriophages, which, however, does not destroy them. He found that sugar has a similar, though smaller influence. Other colloids (gums) had a very strong inhibitory action.

Treatment of Dysentery with Sodium Sulphate.—Hausmann believes that nobody would die from dysentery if large amounts of sodium sulphate (15-20 gm. of the dry salt) were given in time. Sodium sulphate reduces the tendency to spasm of the intestine, and is therefore preferable to magnesium sulphate.

Casopis lekaruv ceskych, Prague

62: 109-136 (Feb. 3) 1923

*Preservation of Milk by Hydrogen Peroxid. G. Kabrhel.—p. 109.
*Immunity in Experimental Anthrax. J. Lukes.—p. 116.
*Refractometry of Serum. J. Becka.—p. 120.
*Pathogenesis of Meningitis. R. Pollak.—p. 122.

Preservation of Milk by Hydrogen Peroxid.—Kabrhel advises against legal sanction of the use of a proprietary preparation containing sodium perborate for preservation of milk. The oxidizing and reducing power of the liberated oxygen may hurt the vitamin content, and the alkali may camouflage the acid fermentation of the impure milk, which would otherwise lead to coagulation, a natural warning sign against the use of it.

Immunity in Anthrax of Guinea-Pigs and Rabbits.—Lukes found the same severity of infection by anthrax bacilli when he inoculated a rabbit intravenously with precautions to avoid infection of subcutaneous tissue, or without these precautions. He attributes this result to the great virulence of the strain he used. Intracutaneous and percutaneous inoculation of guinea-pigs and rabbits with Pasteur's anthrax vaccine caused the death of some of the animals, and did not protect sufficiently those that survived.

Refractometry of Serum.—Becka found that diluting serum with normal saline causes changes in refraction, which do not correspond with the theoretical values. These differences are maximal in a certain degree of dilution. If the serum is mixed slowly with the salt solution, the refraction is less than if mixed quickly. The refraction of the diluted serum diminishes usually after a few (eighteen) hours.

Pathogenesis of Meningitis.—Pollak finds that bacteriologic examination of persons who have been in contact with cerebrospinal meningitis has not much value. A strict isolation is not necessary.

Tohoku Journal of Experimental Medicine, Sendai

3: 305-657 (Dec. 30) 1922. English and German Edition

*Anticoagulants and the Oxygen Capacity of Blood. M. Yamakita.—p. 305.
*Lipoidemia and Xanthoma. S. Yamakawa and M. Kashiwabara.—p. 317.
Changes of Agglutination of Bacilli of Mice Typhoid. T. Konno and K. Sakai.—p. 333.
Relations Between Agglutination and Group Agglutination. Sakai.—p. 341.
*Hyperchloridemia in Asphyxia. K. Yamakami.—p. 352.
Induced Hyperglycemia and Glycosuria in Cats. S. Morita.—p. 363.
*Research on Gaseous Metabolism and Blood Flow in Brain. M. Yamakita.—pp. 414-566.
Internal Secretion and Gaseous Exchange of Blood. Yamakita.—p. 567.
*Oxygen Administration in Anoxemia. M. Yamakita and T. Kato.—p. 608.
*Alcohol Precipitate of Serum as Antigen. Ryo Tsukasaki.—p. 653.

Anticoagulants and the Oxygen Capacity of Blood.—Yamakita found that large amounts of potassium oxalate and sodium citrate inhibit the complete laking of blood, and cause by it lower values of the oxygen capacity.

Lipoidema and Xanthoma.—Yamakawa and Kashiwabara describe a patient suffering from multiple xanthomas. His serum contained about three times the usual amount of cholesterol and neutral fat and a little more than the normal amount of phosphatids. The tumors contained much cholesterol and its esters, and only traces of phosphatids. They believe that xanthomas should be classed rather among the disturbances of metabolism than among tumors.

Hyperchloremia in Asphyxia.—Yamakami found an increase in the blood chlorids (frequently over 10 per cent. of the original value) and a small decrease in the chlorids of muscles in suffocated animals. The probable explanation lies in an irritation of the center.

Gaseous Metabolism and Blood Flow in Brain Under Narcosis and Hypnotics.—Yamakita describes the method and results of his studies on rabbits. In ether narcosis the cerebral blood flow and oxygen consumption increase in the stage of excitation, decrease (oxygen over 50 per cent.) during the narcosis and increase after it. Chloroform decreases

the oxygen consumption in spite of the frequently augmented blood flow. Yet in the reparatory stage the blood flow decreases. Magnesium decreases the oxygen consumption strongly. Injection of calcium stops this narcosis but the gaseous exchange remains low. Chloral hydrate diminishes the oxygen consumption, but does not diminish the blood flow. The changes of cerebral activity, blood flow and oxygen consumption under the influence of narcotics and hypnotics are not always parallel. These experiments brought no evidence for a causal relation between the oxygen consumption and narcosis. Injection of strychnin, caffein and cocain increased very strongly the blood flow and especially the oxygen consumption. Antipyrin acted in a similar way. Cold and hot applications on the head increased, usually, the oxygen consumption of the brain. The blood flow was often diminished by cold, while hot applications on the head always increased the blood flow. The rate of the blood flow influences the oxygen consumption of the brain more under normal conditions, than during activity of the brain. The average amount of oxygen used per minute per gram of brain of rabbits is 0.0944 c.c. which is more than in other organs. The average difference between the oxygen content of the arterial and venous blood of the rabbit brain was 6.92 c.c. per hundred c.c. of blood in 185 animals.

Anoxemia and Effect of Oxygen Administration.—Yamakita and Kato found in ten normal adults and several patients with normal heart and lungs, the "oxygen unsaturation" of the blood between 0.85 and 1.85 c.c. per hundred c.c. of blood. The unsaturation was more marked in some cases of pulmonary tuberculosis, pleurisy and especially in seropneumothorax, but not in chronic bilateral processes. Oxygen inhalation diminished the unsaturation in these cases as well as in healthy persons. Nine cases of heart disease had a distinctly higher unsaturation. Oxygen inhalation relieved the condition only in cases, which were not decompensated. Experiments on animals gave similar results and demonstrated the inefficacy of oxygen inhalation in different poisonings, and the favorable action in anoxemic states with an intact ventilating surface of the lungs. This effect is only temporary. Ten to thirty seconds after withdrawal of oxygen, the unsaturation rose to the previous level.

Alcohol Precipitate of Serum as Antigen.—Tsukasaki was able to immunize animals with an emulsion of the dried precipitate of serum. The powder preserves its antigenic property for a long time.

Finska Läkaresällskapets Handlingar, Helsingfors

65: 1-149 (Jan.) 1923

The Pasteur Centennial. R. Tigerstedt.—p. 1.
*Polyarthritis and Heart Disease. R. Ehrström and J. Wahlberg.—p. 15.
*Rheumatic Endocarditis. A. Krogius.—p. 28.
Familial Aplasia of the Iris. J. G. Lindberg.—p. 38.
Pylorospasm in Infants. B. Sourander.—p. 48.
Attenuated Criminal Responsibility. E. Ehrnrooth.—p. 54.
*Neuroses Following Epidemic Encephalitis. J. Hagelstam.—p. 69.
Balantidium Colitis. M. Savolin.—p. 92.

Polyarthritis and Heart Disease.—The 1,072 cases of heart disease at the Helsingfors medical clinic from 1842 to 1921 have been investigated as to the connection with acute polyarticular rheumatism. Treatment with the salicylates did not begin until 1876, but the proportion of cases with heart complications was not reduced by it. The average has increased from 2 to nearly 4 per cent. since then. The unmistakable influence of the salicylates on the joint process may be merely a chemical sensitizing of the joint itself, without any action on the causal virus. The symptomatic action of the salicylates may be compared to that of iodid and mercury in syphilis. Further analogy with syphilis is seen in Holst's and Poulsson's recent assertions that polyarticular rheumatism is not an acute but a chronic disease: The virus persists after the acute phase has subsided, just as in syphilis, and it may overwhelm the organism anew in a recurrent attack of the febrile rheumatism. In the intervals, the virus acts on the heart and nervous system, or the virus may attack the heart first, and a chronic valvular defect develop before the case is explained by symptoms from the joints. The heart disease and the chorea from the virus attacking the nervous system usually develop without fever and are not influenced by salicylate treatment, and are not even warded off by it. Ehrström and Wahlberg regard the heart involvement as the main feature of the disease; the joint processes are merely episodes in its course. And we are powerless in respect to the main feature of the disease, the carditis.

Is Endocarditis a Complication or the Primary Localization of Febrile Rheumatism?—Krogius presents arguments to prove that the virus locates first in the heart valves, and that minute emboli from this source are swept to the joints and elsewhere from time to time. This explains the course, the tendency to recurrence of the polyarticular phase, and the chorea phase when the virus attacks the nervous system. He believes that more careful investigation in typical polyarticular rheumatism would reveal the primary heart lesion in these cases, both during life and at necropsy. It is possible, he adds, that gonorrheal arthritis may be secondary to a similar endocarditis of gonococcus origin. He has no direct proof to offer, and anticipates vigorous protests from the internists, but reiterates that the pathogenesis of acute polyarticular rheumatism needs revision.

Postencephalitic Neuroses. — Hagelstam describes four cases of neuroses in which the differential diagnosis was difficult. They were the only cases of the kind observed in ninety cases of epidemic encephalitis in 1920 and 1921. The ages in the neurosis cases ranged from 10 to 53; all were in males. Hysteria had been assumed at first. The psychogenic character of many of the symptoms, their periodic recurrence and the benefit from psychotherapy are main features of the cases. Hagelstam calls attention further to the presence of certain symptoms which we know from other forms of encephalitis. This suggests the necessity for seeking an organic basis in all cases of neuroses.

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*Obesity. E. E. Faber.—p. 105.
*Apparatus for Demonstrating Mechanics of Throat. W. Talvi.—p. 109.
*Diagnosis of Cancer in Colon. T. E. Hess Thaysen.—p. 110.
Experiences with Toxin-Antitoxin. C. C. C. Vogel.—p. 111.

Obesity of Endogenous and Exogenous Origin.—Faber explains how the physiologic balance requires that the calory content of the food must equal the basal metabolism plus the work of digestion, plus the amount of energy used up in muscular work. He expresses this in the equation $C = B + D + M$. War experiences and research since have confirmed the view that the intake of calories is often above the physiologic requirement, and the superfluous calories throw an extra task on the organs which regulate oxidation and radiation of heat. If they are unequal to this task, the superfluous nourishment is deposited as fat. The metabolic anomaly in this endogenous obesity may not affect the basal metabolism, but thyroid treatment may stimulate the organs involved and lead to the throwing off of the fat deposits. Another point he emphasizes is that the organs involved (endocrine glands) may become exhausted from their extra work, so that even when the intake of calories is reduced very low they still are unable to cope with them. Obesity is rare in the young because their endocrine glands are so active that they can handle an excess of work. In exophthalmic goiter, the abnormally active thyroid diverts the energy to tremor and sweating, rather than to accumulation of fat. The tendency to accumulation of fat increases as the endocrine system grows less active with advancing years. This is especially manifest in women at the menopause although the basal metabolism is normal. He remarks in conclusion that even the most pronounced cases of *endogen adipositas* may show no benefit from thyroid or other treatment until the intake of food is materially reduced. This confirms the almost invariable blending of the endogenous and exogenous types.

To Demonstrate Movements in Larynx and Pharynx.—Talvi's illustration shows the apparatus he has devised for amphitheater teaching.

Diagnosis of Cancer in the Colon.—Thaysen asserts that a contrast meal is of no use for the diagnosis of a stricture in the colon. Only a contrast enema is instructive.